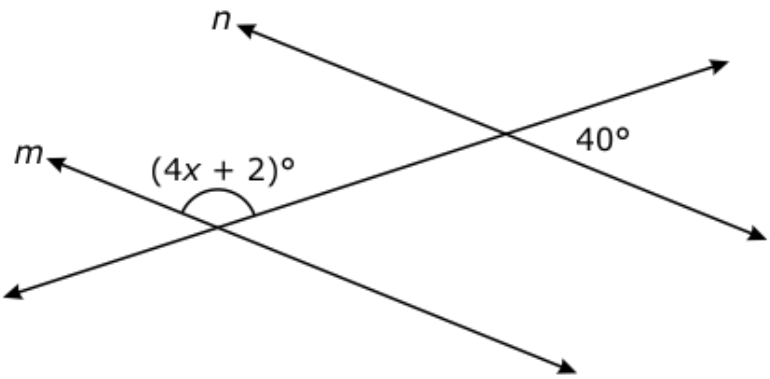
TEST NAME: **8th Grade EOG Review-G**
TEST ID: **146409**
GRADE: **08**
SUBJECT: **Mathematics**
TEST CATEGORY: **Shared Classroom Assessments**

Student: _____

Class: _____

Date: _____

1. In the figure below, lines *m* and *n* are parallel.



What is the value of *x*?

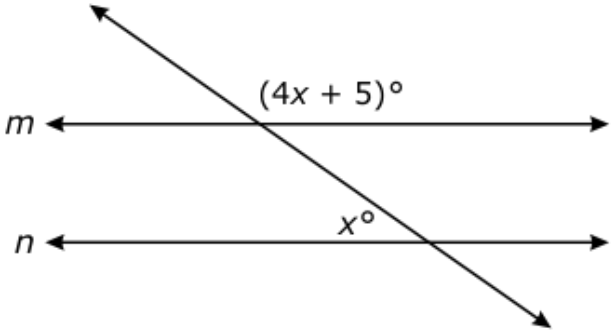
A. 9.5

B. 10.5

C. 34.5

D. 35.5

2. In the figure below, lines *m* and *n* are parallel.



What is the value of *x*?

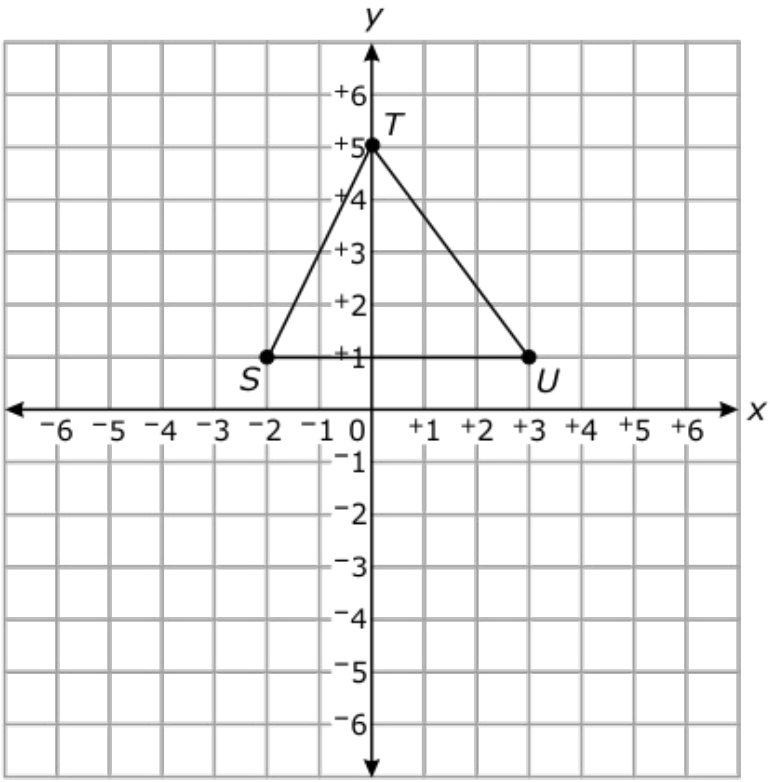
A. 45

B. 40

C. 35

D. 30

3. Triangle *STU* will be transformed to the points *S'*(⁻2, ⁻1), *T'*(0, ⁻5), and *U'*(3, ⁻1).



What type of transformation will occur to triangle *STU*?

A. reflection

B. rotation

C. dilation

D. translation

4. A rectangular computer screen has a diagonal measurement of 23 inches. The length of the screen is 20 inches. What is the ***approximate*** width of the computer screen?

A. 30.4 inches

B. 21.5 inches

C. 17.0 inches

D. 11.4 inches

5. Wendy has a rectangular flower garden that measures 20 ft long and 10 ft wide. She wants to construct a diagonal walkway through her garden. What is the ***approximate*** length of the walkway?

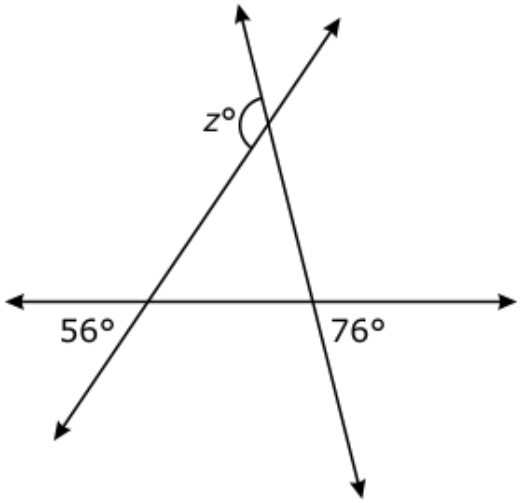
A. 15 ft

B. 17 ft

C. 22 ft

D. 30 ft

6. In the figure below, what is the measure of angle *z*?



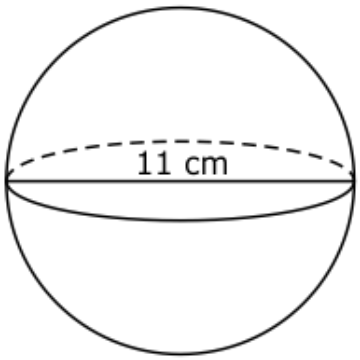
A. 104°

B. 124°

C. 132°

D. 152°

7. What is the ***approximate*** volume of the sphere below?



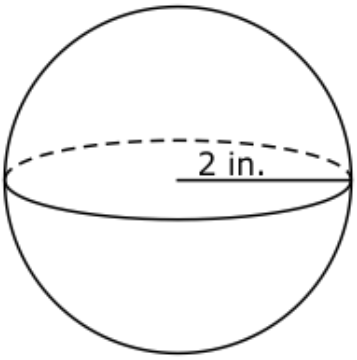
A. 697 cm^3

B. 507 cm^3

C. 380 cm^3

D. 127 cm^3

8. What is the ***approximate*** volume of the sphere below?



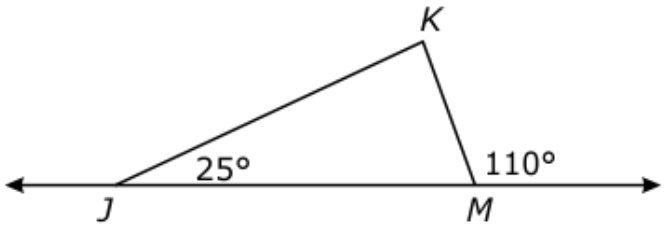
A. 17 $in.^3$

B. 19 $in.^3$

C. 25 $in.^3$

D. 34 $in.^3$

9. Triangle *JKM* is shown below.



What is the measure of angle *JKM*?

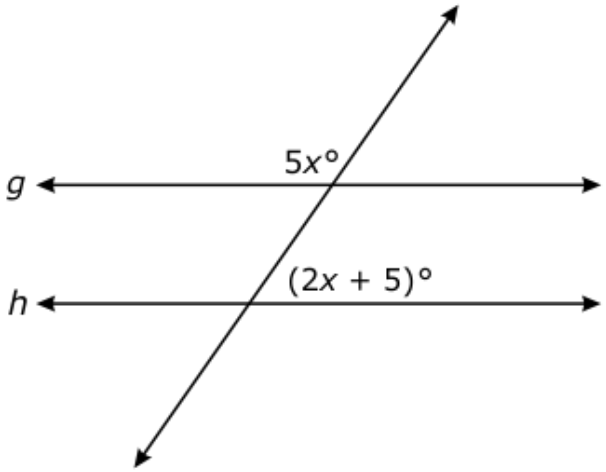
A. 65°

B. 70°

C. 85°

D. 90°

10. In the figure below, lines *g* and *h* are parallel.



What is the value of *x*?

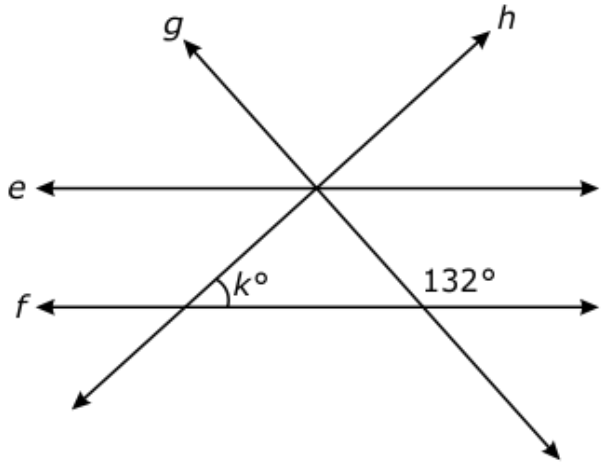
A. 20

B. 24

C. 25

D. 36

11. In the figure below, lines *e* and *f* are parallel, and lines *g* and *h* are perpendicular.



What is the measure of angle *k*?

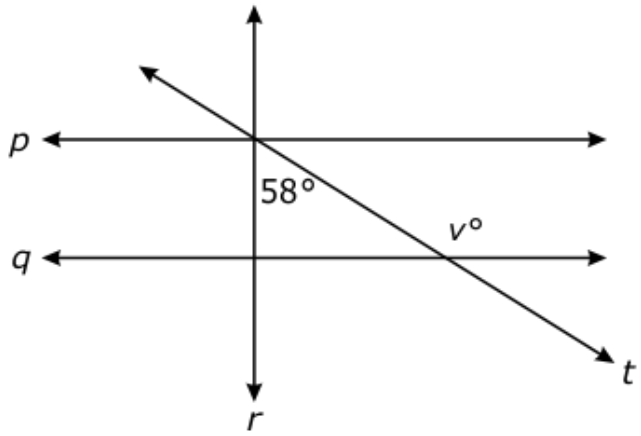
A. 42°

B. 45°

C. 48°

D. 50°

12. In the figure below, lines p and q are parallel. Line q is perpendicular to line r.



What is the measure of angle v?

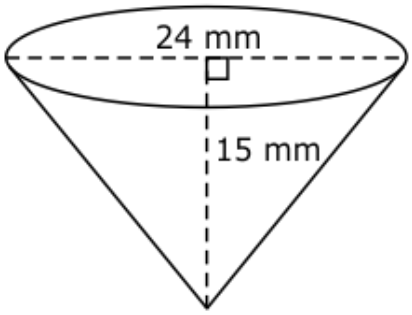
A. 120°

B. 122°

C. 148°

D. 150°

13. The cone below has a diameter of 24 mm.



What is the ***approximate*** volume of the cone?

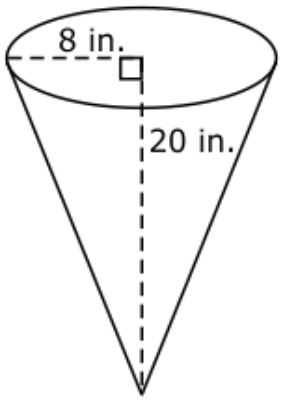
A. 377 mm^3

B. 565 mm^3

C. 1,131 mm^3

D. 2,262 mm^3

14. What is the ***approximate*** volume of the cone below?



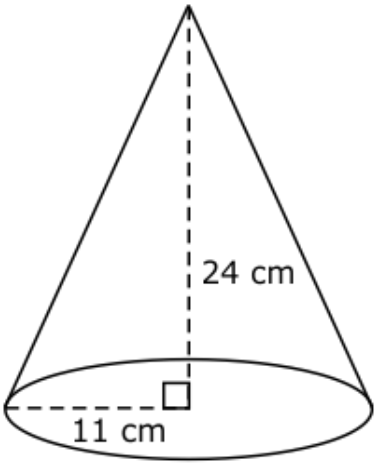
A. 4,021 in.^{3}

B. 3,351 in.^{3}

C. 1,340 in.^{3}

D. 1,005 in.^{3}

15. A cone is shown below.



What is the ***approximate*** volume of the cone?

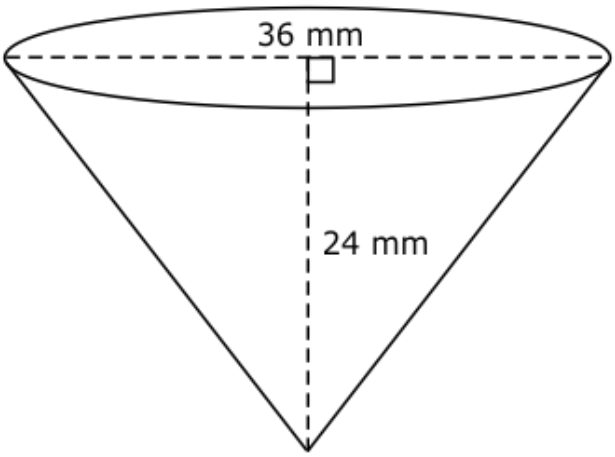
A. 3,041 cm^3

B. 1,659 cm^3

C. 829 cm^3

D. 552 cm^3

16. A cone is shown below.



What is the ***approximate*** volume of the cone?

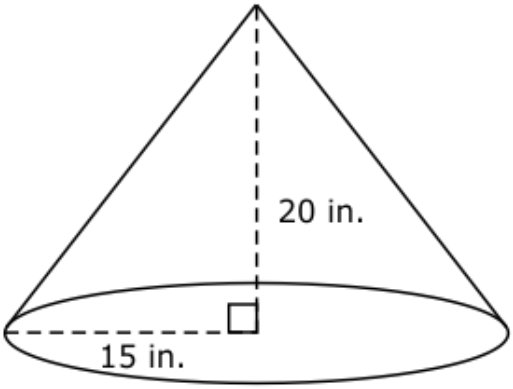
A. 905 mm^3

B. 1,357 mm^3

C. 2,714 mm^3

D. 8,143 mm^3

17. What is the ***approximate*** volume of the cone below?



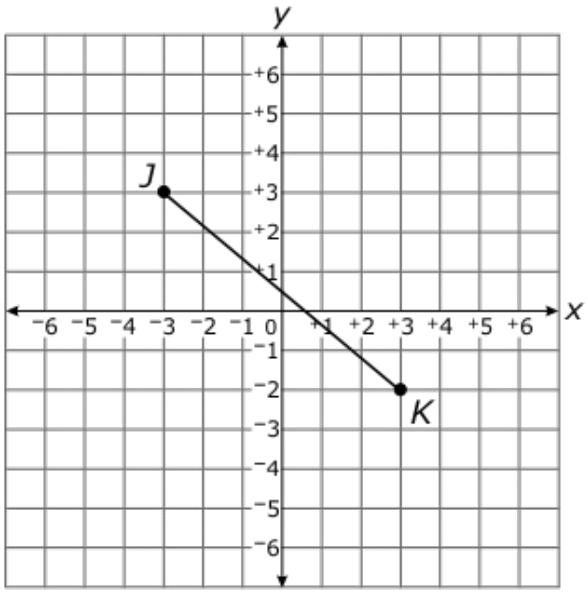
A. 7,069 $in.^3$

B. 6,283 $in.^3$

C. 4,712 $in.^3$

D. 1,885 $in.^3$

18. What is the length of line segment *JK* on the graph below?



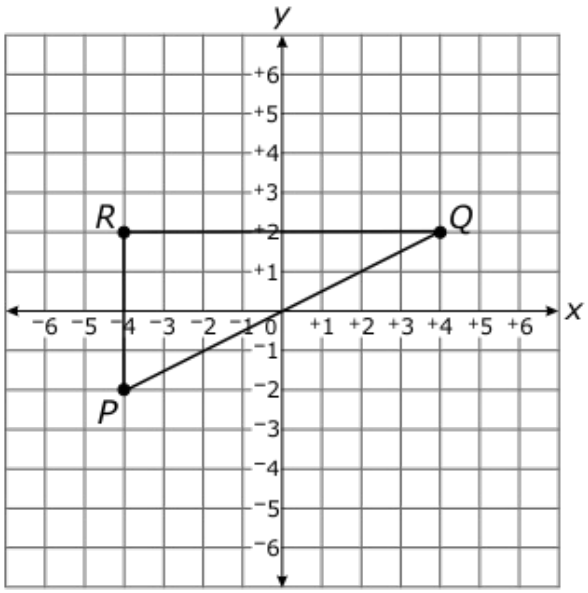
A. $\sqrt{11}$ units

B. $\sqrt{22}$ units

C. $\sqrt{36}$ units

D. $\sqrt{61}$ units

19. Triangle *PQR* is shown on the graph below.



What is the length of the hypotenuse of triangle *PQR*?

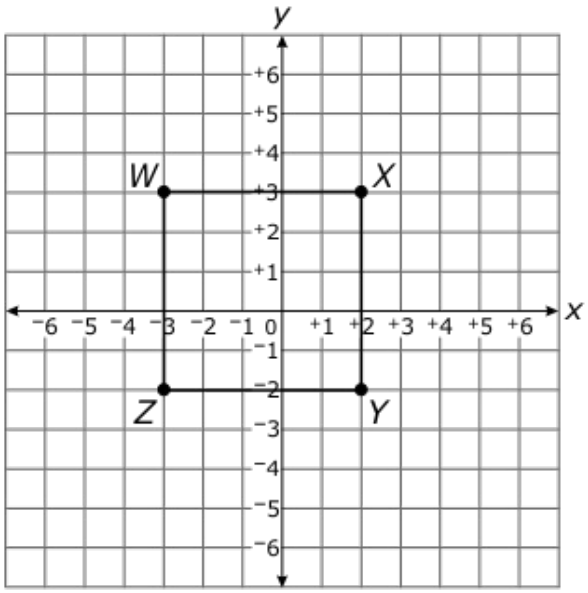
A. $\sqrt{8}$ units

B. $\sqrt{24}$ units

C. $\sqrt{64}$ units

D. $\sqrt{80}$ units

20. Square *WXYZ* is shown below.



What is the ***approximate*** length of the diagonal of square *WXYZ*?

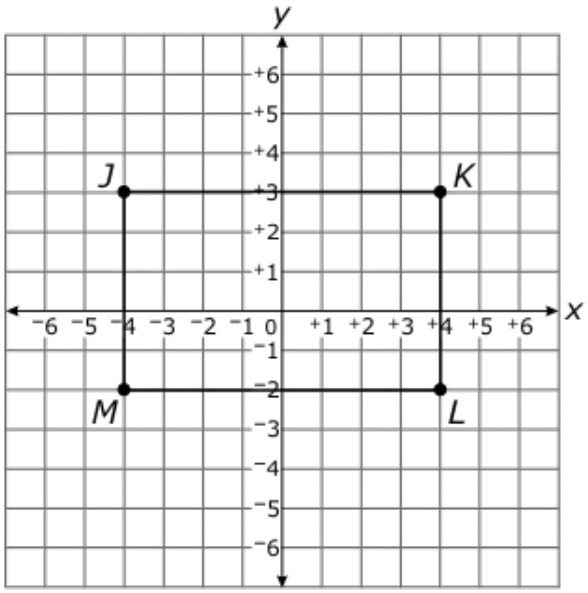
A. 5 units

B. 6 units

C. 7 units

D. 10 units

21. Rectangle *JKLM* is shown below.



What is the length of the diagonal of rectangle *JKLM*?

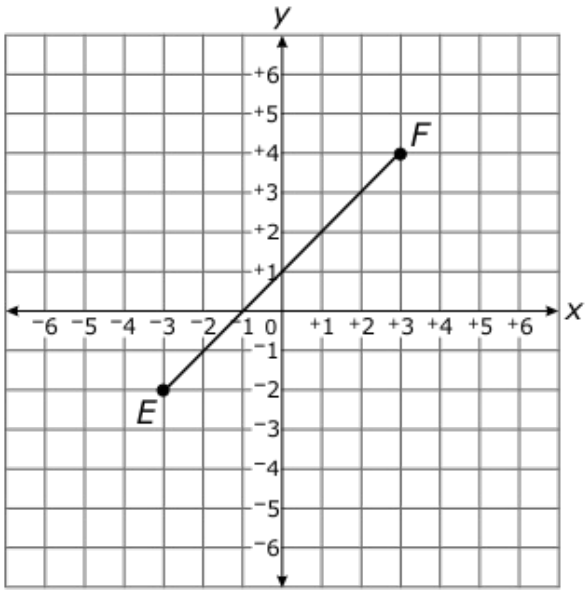
A. $\sqrt{26}$ units

B. $\sqrt{64}$ units

C. $\sqrt{81}$ units

D. $\sqrt{89}$ units

22. What is the ***approximate*** length of line segment *EF*?



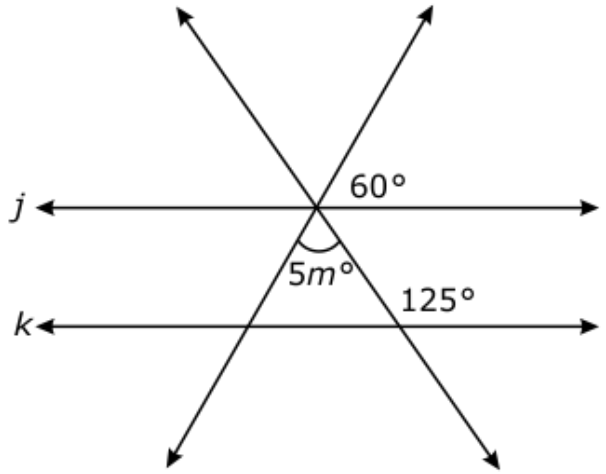
A. 6 units

B. 7 units

C. 7.5 units

D. 8.5 units

23. In the figure below, lines j and k are parallel.



What is the value of m?

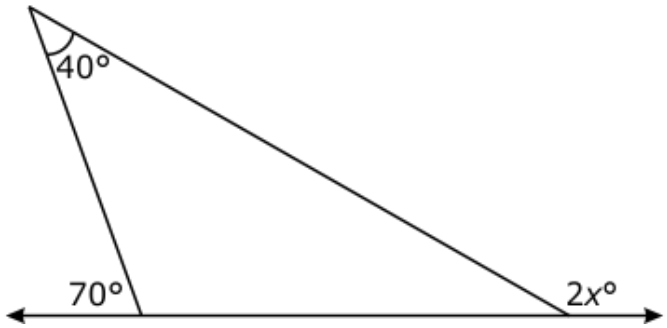
A. 25

B. 24

C. 13

D. 12

24. What is the value of x in the figure below?



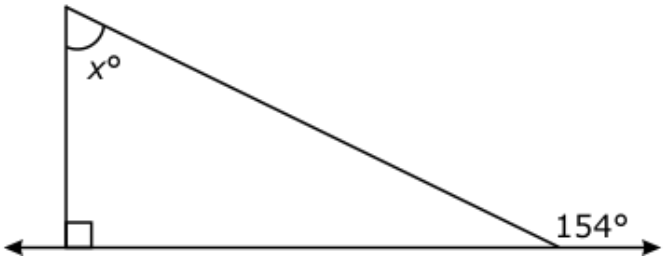
A. 15

B. 30

C. 55

D. 75

25. What is the measure of angle *x* in the figure below?



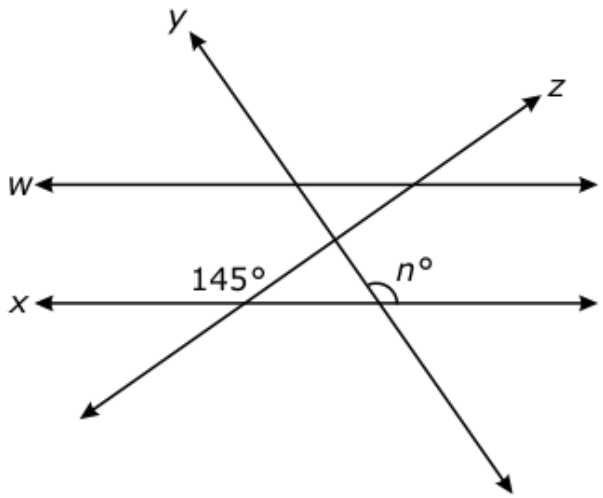
A. 26°

B. 45°

C. 50°

D. 64°

26. In the figure below, lines *w* and *x* are parallel. Lines *y* and *z* are perpendicular.



What is the measure of angle *n*?

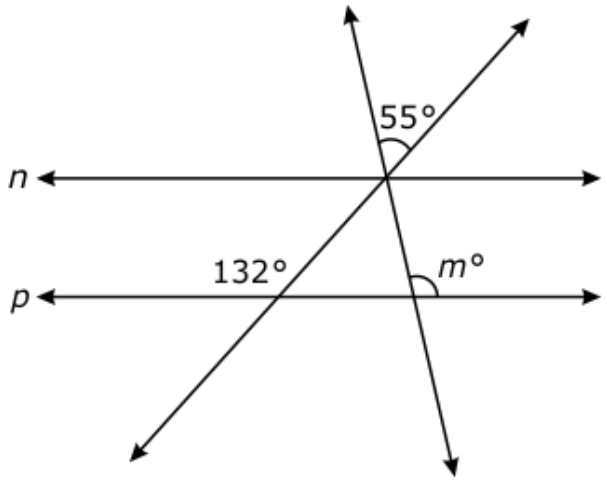
A. 125°

B. 130°

C. 140°

D. 145°

27. In the figure below, lines *n* and *p* are parallel.



What is the measure of angle *m*?

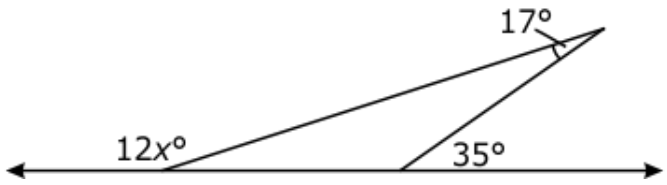
A. 100°

B. 103°

C. 125°

D. 132°

28. What is the value of *x* in the figure below?



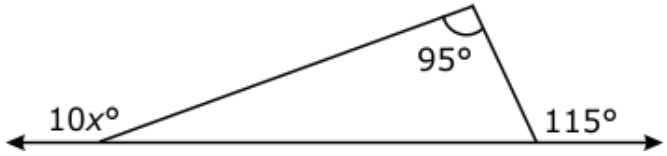
A. 4.3

B. 10.7

C. 12.1

D. 13.5

29. What is the value of x in the figure below?



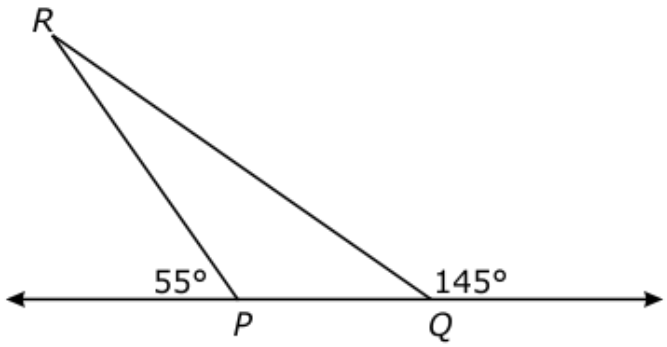
A. 21

B. 20

C. 16

D. 12

30. Triangle PQR is shown below.



What is the measure of angle PRQ?

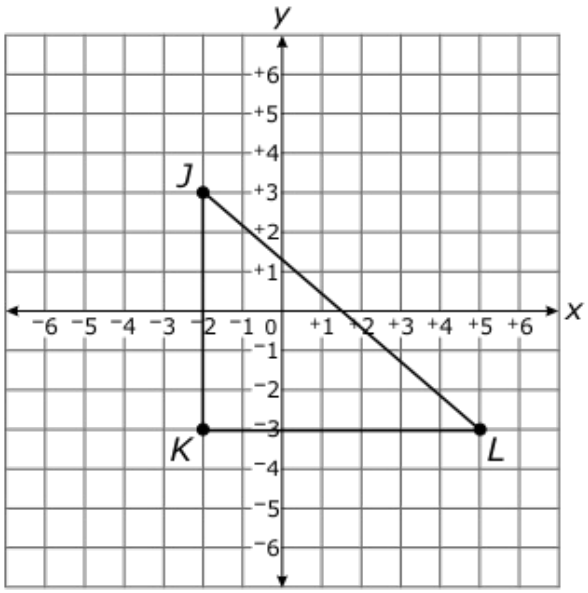
A. 40°

B. 35°

C. 25°

D. 20°

31. Triangle *JKL* is shown below.



What is the ***approximate*** perimeter of triangle *JKL*?

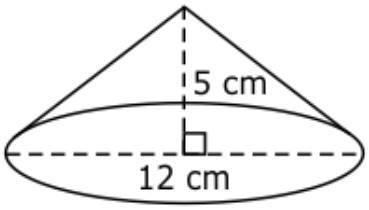
A. 18 units

B. 20 units

C. 22 units

D. 24 units

32. What is the ***approximate*** volume of the cone below?



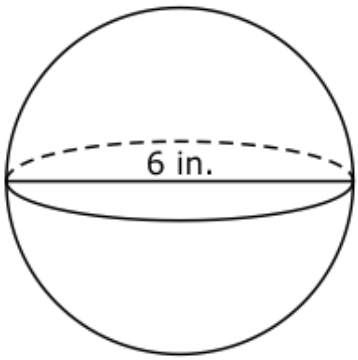
A. 63 cm^3

B. 188 cm^3

C. 565 cm^3

D. 754 cm^3

33. A sphere is shown below.



What is the ***approximate*** volume of the sphere?

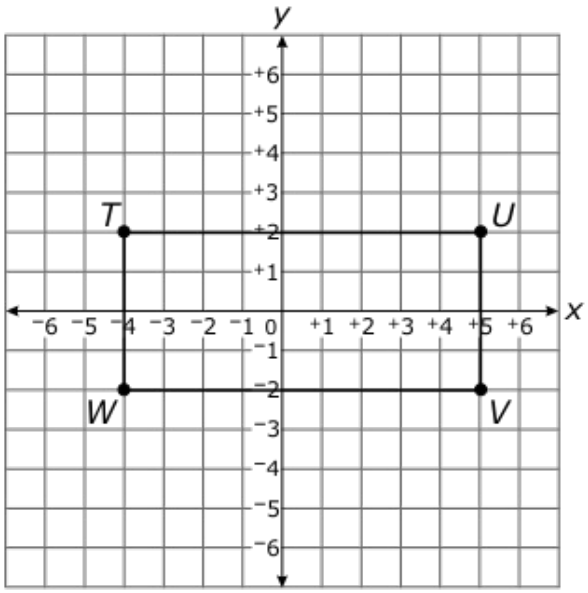
A. 113 in.^3

B. 151 in.^3

C. 339 in.^3

D. 679 in.^3

34. Rectangle *TUVW* is shown below.



What is the ***approximate*** length of the diagonal of rectangle *TUVW*?

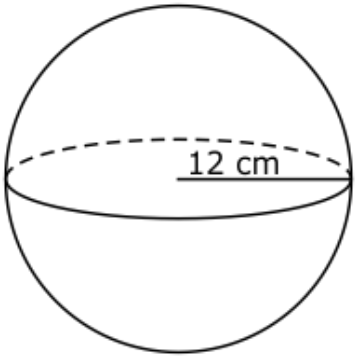
A. 9 units

B. 10 units

C. 12 units

D. 13 units

35. What is the ***approximate*** volume of the sphere below?



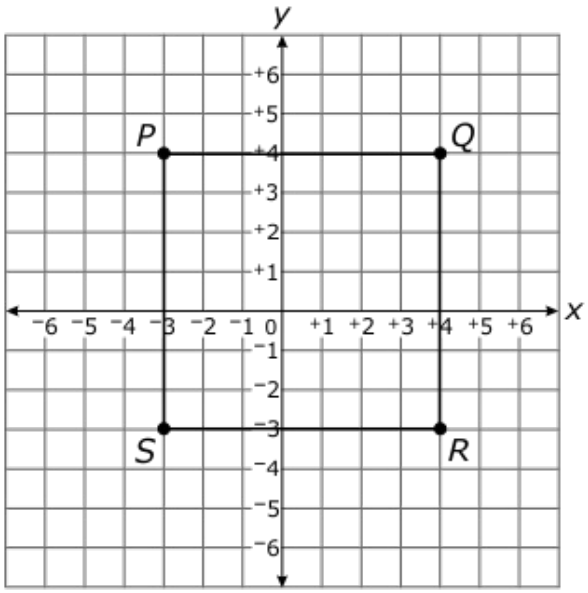
A. 1,810 cm^3

B. 4,072 cm^3

C. 5,429 cm^3

D. 7,238 cm^3

36. Square *PQRS* is shown below.



What is the ***approximate*** measure of the diagonal of square *PQRS*?

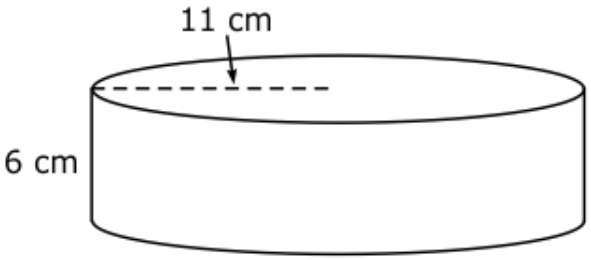
A. 7 units

B. 8 units

C. 9 units

D. 10 units

37. What is the ***approximate*** volume of the cylinder below?



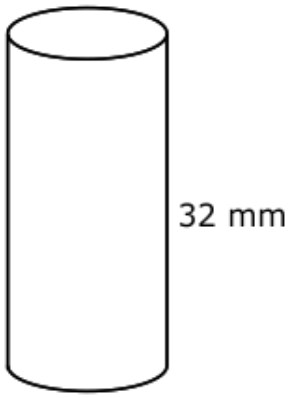
A. 207 cm^3

B. 415 cm^3

C. 1,244 cm^3

D. 2,281 cm^3

38. The cylinder below has a diameter of 8 mm.



What is the ***approximate*** volume of the cylinder?

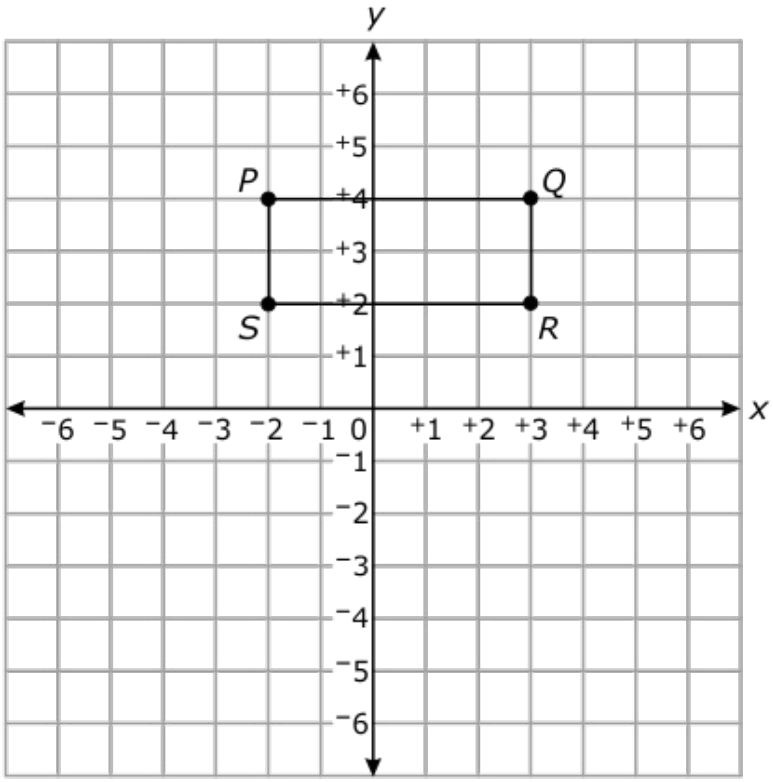
A. 804 mm^3

B. 1,608 mm^3

C. 2,048 mm^3

D. 6,434 mm^3

39. Rectangle *PQRS* will be transformed to the points *P*′(2, 0), *Q*′(7, 0), *R*′(7, ⁻2), and *S*′(2, ⁻2).



What type of transformation will rectangle *PQRS* undergo?

A. translation

B. rotation

C. reflection

D. dilation

40. Triangle *EFG* has vertices located at *E*(2, 1), *F*(5, 1), and *G*(5, 5). The triangle will undergo a single transformation so that the vertices are located at *E*′(⁻2, ⁻1), *F*′(⁻5, ⁻1), and *G*′(⁻5, ⁻5). What type of transformation will the triangle undergo?

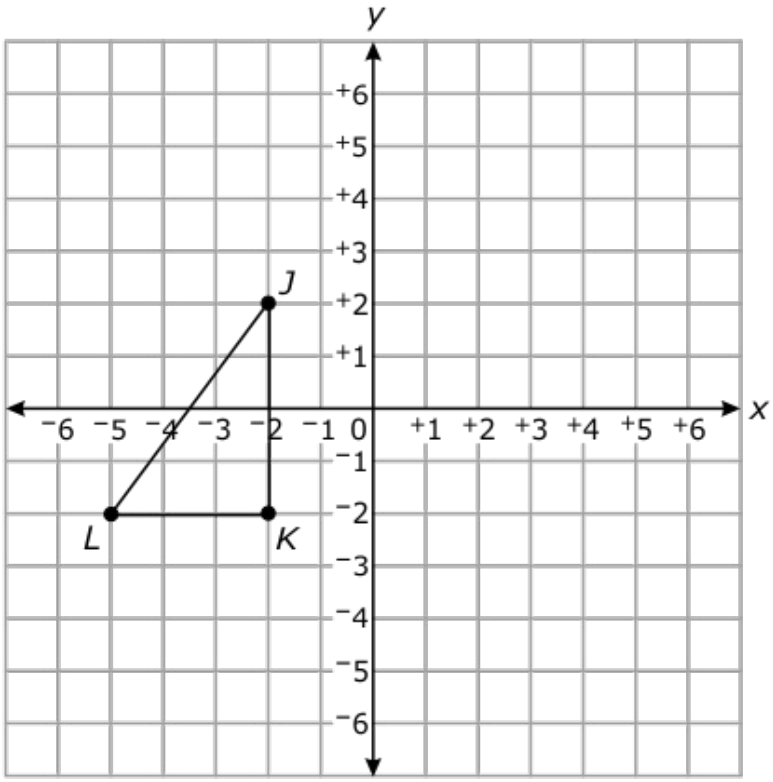
A. dilation

B. reflection

C. rotation

D. translation

41. Triangle *JKL* will be transformed to the points *J'*(2, 2), *K'*(2, ⁻2), and *L'*(5, ⁻2).



What type of transformation will occur to triangle *JKL*?

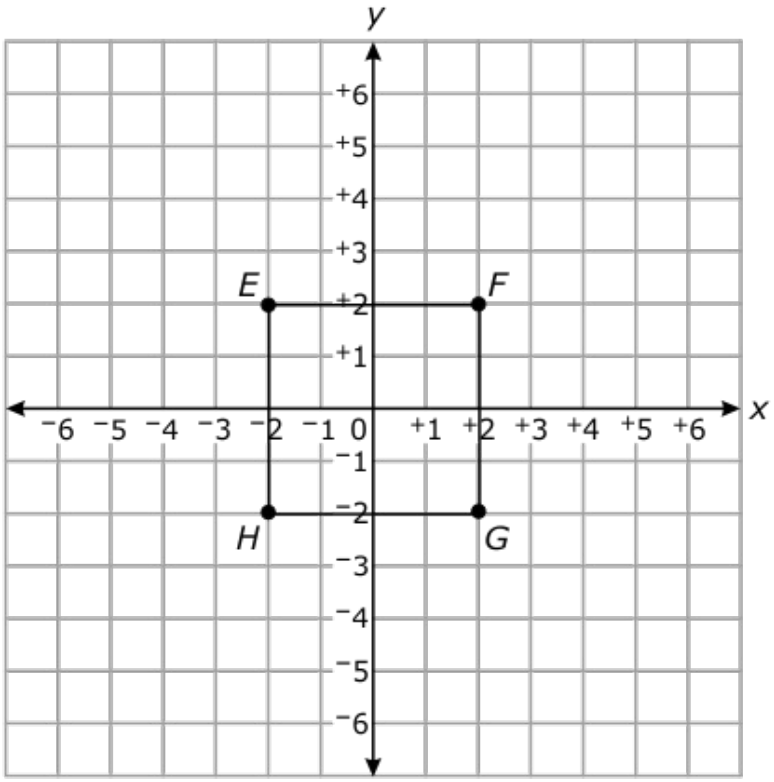
A. reflection

B. rotation

C. dilation

D. translation

42. Square *EFGH* below will be transformed to the points *E*′(⁻4, 4), *F*′(4, 4), *G*′(4, ⁻4), and *H*′(⁻4, ⁻4).



What type of transformation will occur to square *EFGH*?

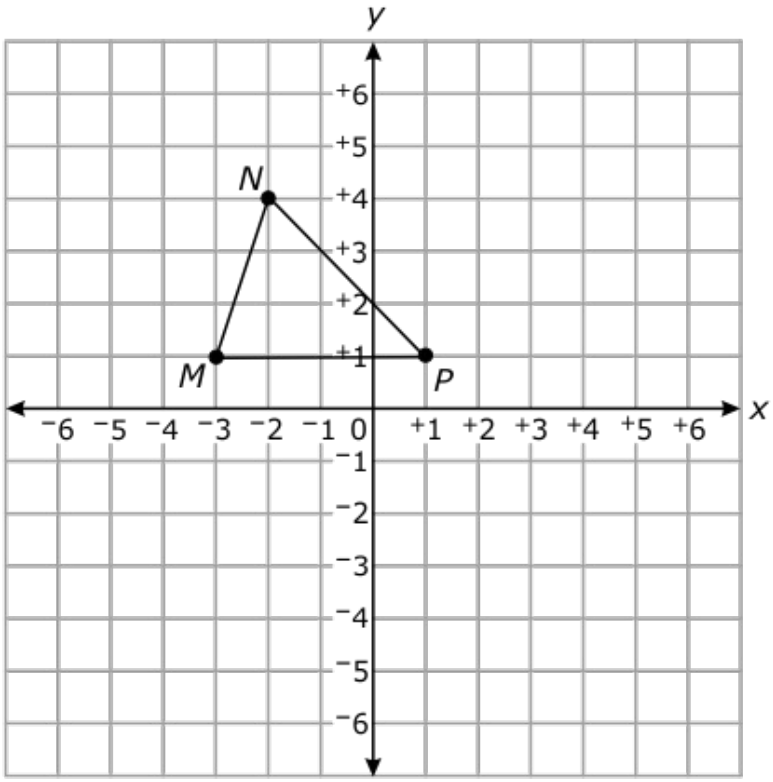
A. reflection

B. rotation

C. translation

D. dilation

43. Triangle *MNP* will be transformed to the points *M*′(1, 3), *N*′(4, 2), and *P*′(1, ⁻1).



What type of transformation will occur to triangle *MNP*?

A. rotation

B. reflection

C. translation

D. dilation

44. Triangle *PQR* had vertices located at *P*(⁻5, ⁻1), *Q*(⁻2, ⁻1), and *R*(⁻4, 2). The triangle was transformed to the points *P*′(2, –1), *Q*′(5, –1), and *R*′(3, 2). What type of transformation occurred to triangle *PQR*?

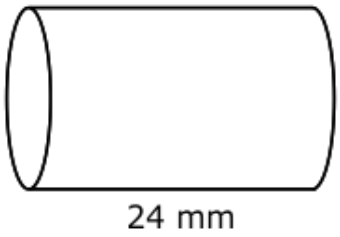
A. reflection

B. rotation

C. translation

D. dilation

45. The cylinder below has a diameter of 12 mm.



What is the ***approximate*** volume of the cylinder?

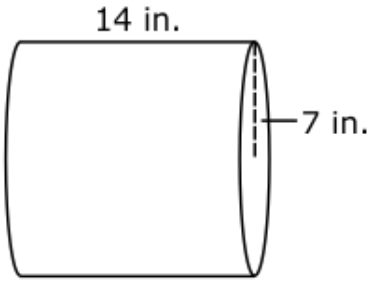
A. 452 mm^3

B. 905 mm^3

C. 2,714 mm^3

D. 10,857 mm^3

46. A container is shown below.



What is the ***approximate*** volume of the container?

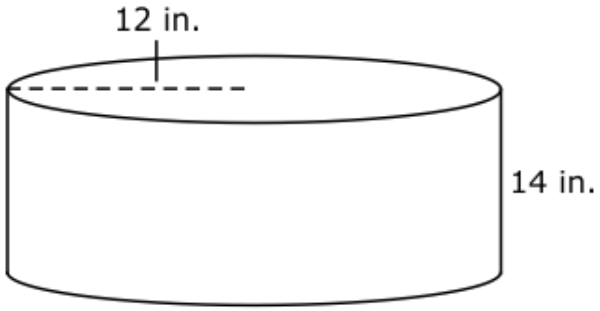
A. 308 $in.^3$

B. 616 $in.^3$

C. 2,155 $in.^3$

D. 4,310 $in.^3$

47. A small barrel in the shape of a cylinder is shown below.



What is the ***approximate*** volume of the barrel?

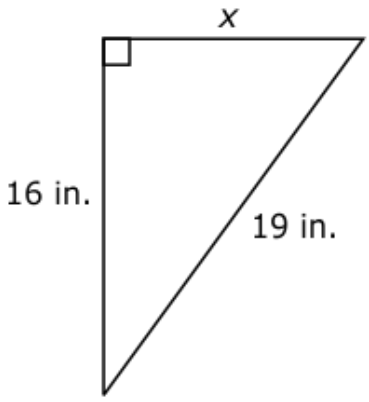
A. 7,389 in.^{3}

B. 6,333 in.^{3}

C. 1,056 in.^{3}

D. 528 in.^{3}

48. Troy used the triangle-shaped piece of wood below for a table he is building.



What is the ***approximate*** length of the third side of the piece of wood, *x*?

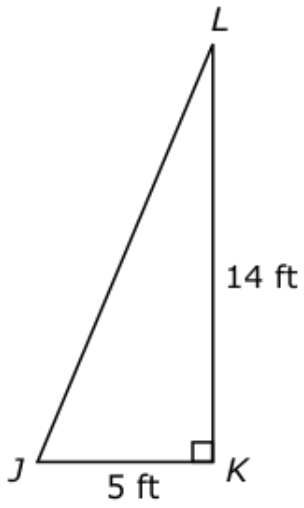
A. 10.2 in.

B. 13 in.

C. 22 in.

D. 24.8 in.

49. What is the ***approximate*** perimeter of triangle *JKL* below?



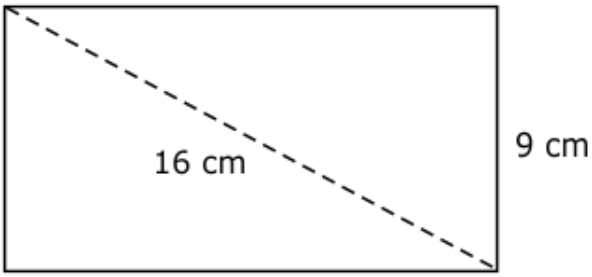
A. 44 ft

B. 38 ft

C. 34 ft

D. 32 ft

50. The rectangle below has a diagonal that measures 16 cm.



What is the ***approximate*** area of the rectangle?

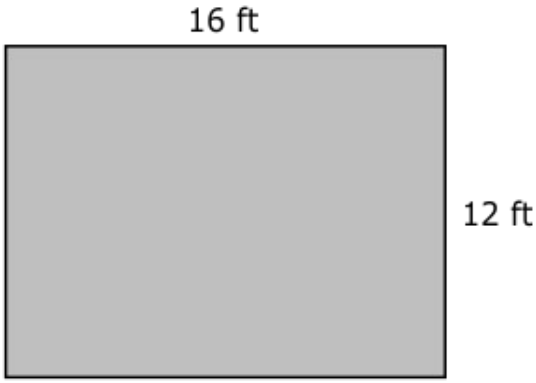
A. 113 cm^2

B. 119 cm^2

C. 144 cm^2

D. 165 cm^2

51. Margaret purchased the rug shown below.



What is the diagonal measurement of the rug?

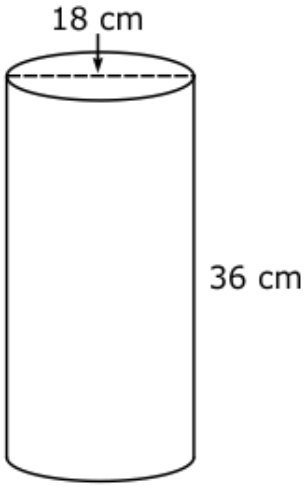
A. 10 ft

B. 14 ft

C. 20 ft

D. 28 ft

52. A shipping tube, in the shape of a cylinder, is shown below.



What is the ***approximate*** volume of the tube?

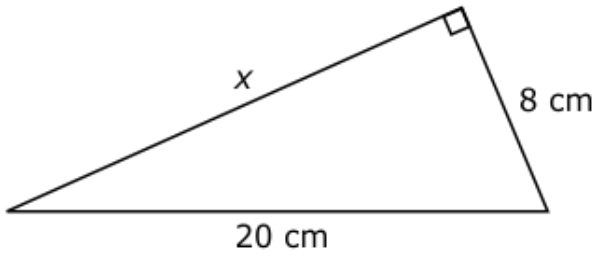
A. 648 cm^3

B. 1,018 cm^3

C. 2,036 cm^3

D. 9,161 cm^3

53. What is the ***approximate*** length of side *x*?



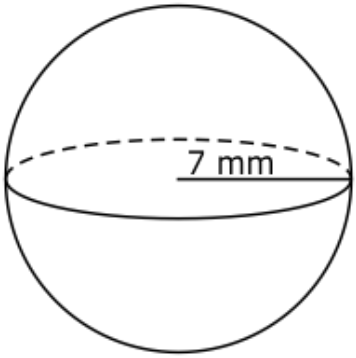
A. 12 cm

B. 14 cm

C. 18 cm

D. 22 cm

54. A sphere is shown below.



What is the ***approximate*** volume of the sphere?

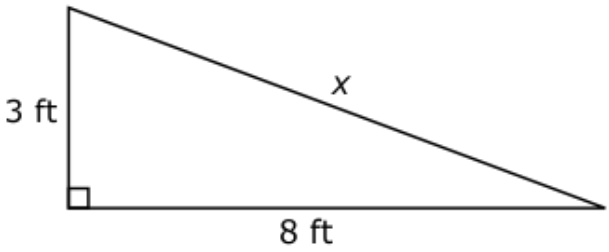
A. 1,437 mm^3

B. 1,078 mm^3

C. 808 mm^3

D. 205 mm^3

55. Ethan built the ramp below.



What is the ***approximate*** length of side *x* of the ramp?

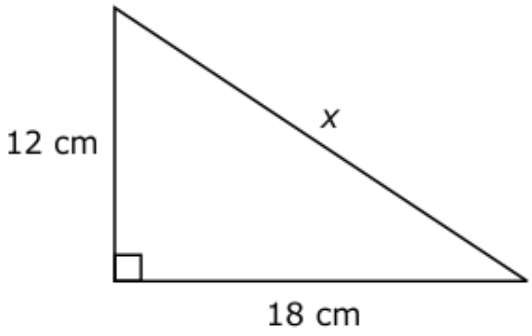
A. 7.5 ft

B. 8.5 ft

C. 11 ft

D. 13 ft

56. What is the ***approximate*** length of side *x*?



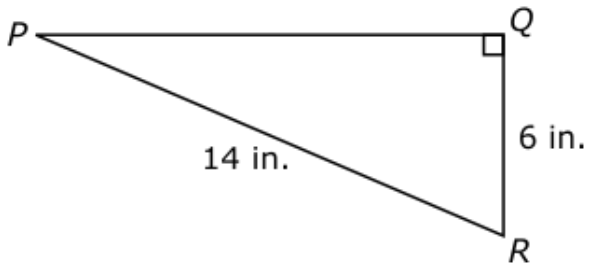
A. 13 cm

B. 22 cm

C. 24 cm

D. 30 cm

57. What is the ***approximate*** area of triangle *PQR* below?



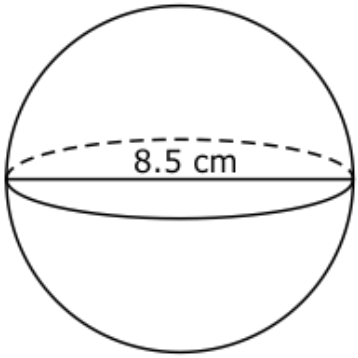
A. 30 in.^{2}

B. 38 in.^{2}

C. 42 in.^{2}

D. 46 in.^{2}

58. The sphere below has a diameter of 8.5 cm.



What is the ***approximate*** volume of the sphere?

A. 227 cm^3

B. 241 cm^3

C. 303 cm^3

D. 322 cm^3

59. A triangle has vertices $X(1, 1)$, $Y(4, 1)$, and $Z(4, 5)$. What is the length of side XZ?

A. 3 units

B. 4 units

C. 5 units

D. 6 units

60. The coordinates of triangle MNP are $M(2, 1)$, $N(2, 3)$, and $P(4, 4)$. What will be the coordinates of the image after a translation of 5 units down?

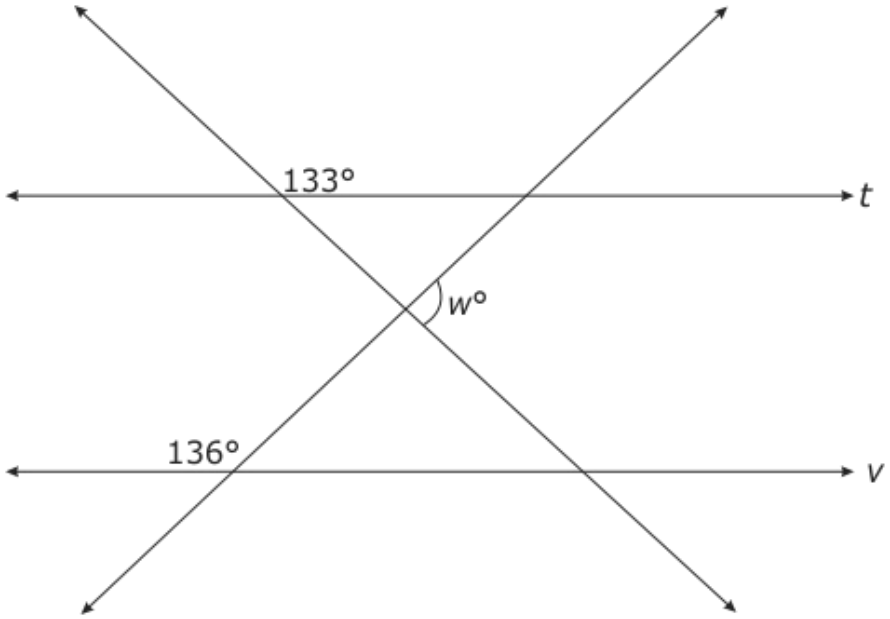
A. $M'(^{-}3, 1)$, $N'(^{-}3, 3)$, $P'(^{-}1, 4)$

B. $M'(2, ^{-}4)$, $N'(2, ^{-}2)$, $P'(4, ^{-}1)$

C. $M'(2, 6)$, $N'(2, 8)$, $P'(4, 9)$

D. $M'(7, 1), N'(7, 3), P'(9, 4)$

61. In the figure below, lines t and v are parallel.



What is the measure of $\angle w$?

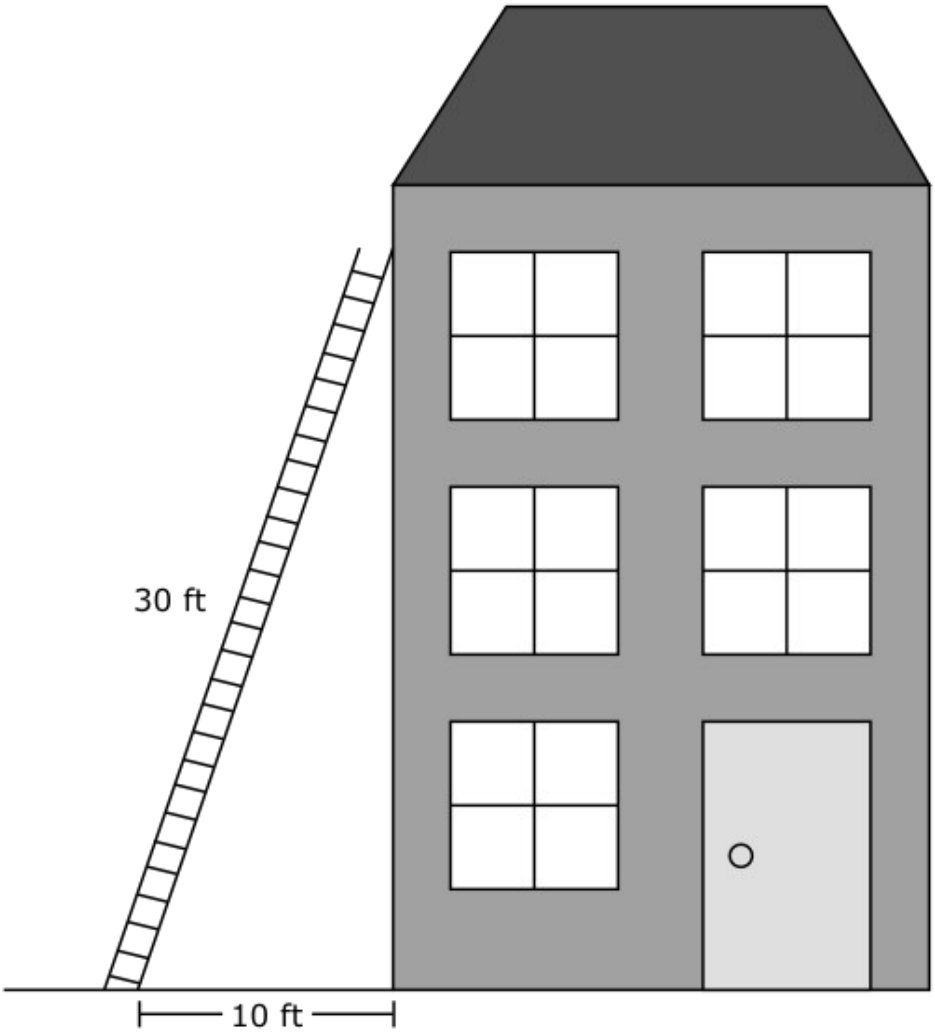
A. 44°

B. 47°

C. 89°

D. 91°

62. A 30-ft ladder is leaning against the wall of a building as shown below.



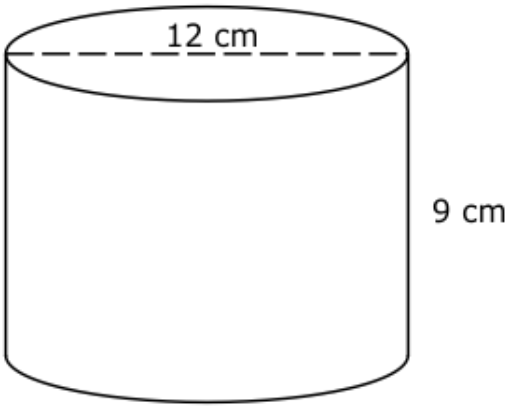
About how far up the building does the ladder reach?

A. 28 feet

B. 32 feet

C. 40 feet

63. A cylinder is shown below.



What is the ***approximate*** volume of the cylinder?

A. 339 cm^3

B. 1,018 cm^3

C. 4,072 cm^3

64. What is the ***approximate*** volume of a sphere with a diameter of 15 cm?

A. 1,325 cm^3

B. 1,770 cm^3

C. 3,375 cm^3

65. A sphere has a radius of 13 cm. What is the ***approximate*** volume of the sphere?

A. 2,200 cm^3

B. 6,900 cm^3

C. 9,200 cm^3

66. A line segment has endpoints at (8, ⁻3) and (5, 1). What is the length of this line segment?

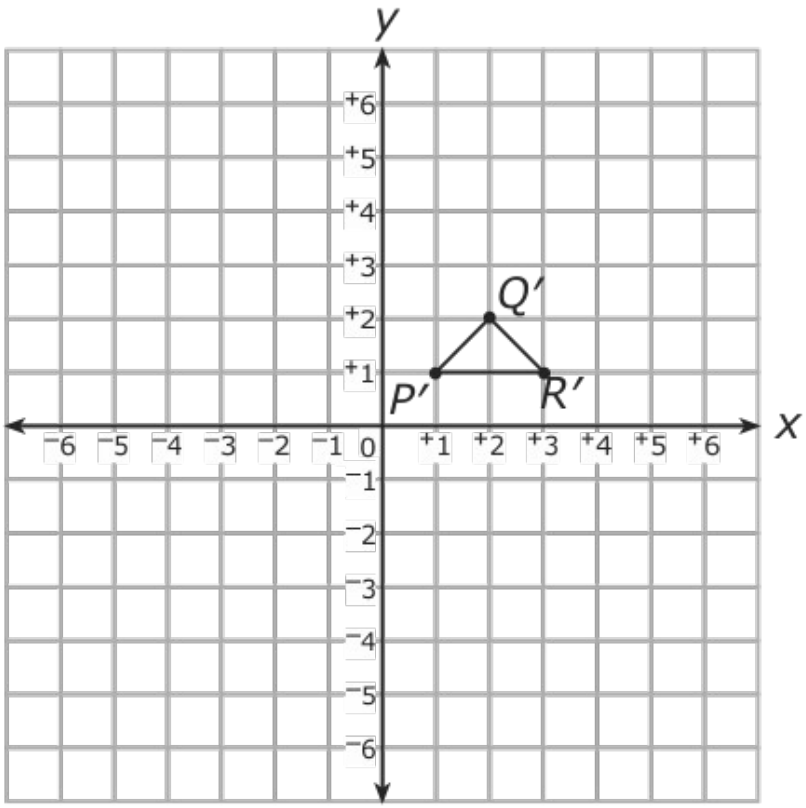
A. 3 units

B. 5 units

C. 13 units

D. 25 units

67. The graph below shows the image of triangle *PQR* after a translation of 4 units to the right and 3 units up.



What were the coordinates of triangle *PQR*?

A. *P*(⁻3, ⁻2), *Q*(⁻2, ⁻1), *R*(⁻1,⁻2)

B. *P*(⁻2, ⁻3), *Q*(⁻1, ⁻2), *R*(0, ⁻3)

C. *P*(⁻2, ⁻3), *Q*(⁻1, ⁻2), *R*(⁻2, ⁻7)

D. *P*(5, 4), *Q*(6, 5), *R*(7, 4)

68. The endpoints of a line segment are located at $P(4, -2)$ and $Q(-3, -1)$. What are the coordinates of the image points P' and Q' after a translation of 2 units down and 4 units to the left?

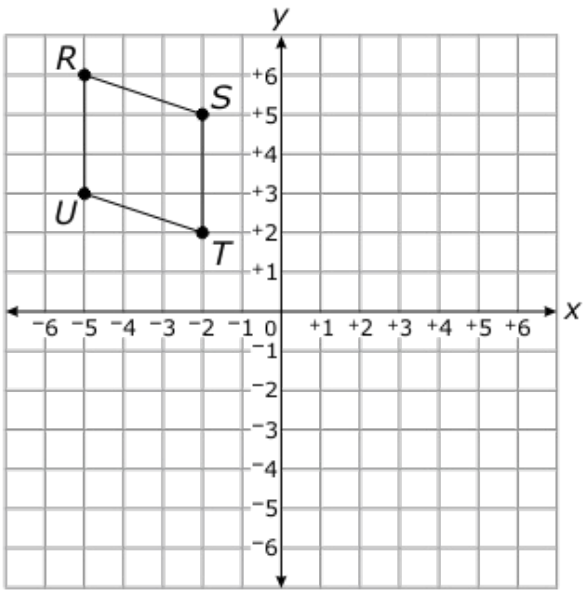
A. $P'(8, 0), Q'(1, 1)$

B. $P'(8, -4), Q'(1, -3)$

C. $P'(0, 0), Q'(1, -3)$

D. $P'(0, -4), Q'(-7, -3)$

69. Quadrilateral *RSTU* will be rotated 90° clockwise about the origin.



What will be the coordinates of the image point *R'*?

A. $(-6, -5)$

B. $(-5, -6)$

C. $(5, 6)$

D. $(6, 5)$

70. Which measurements below can be the length of the sides of a right triangle?

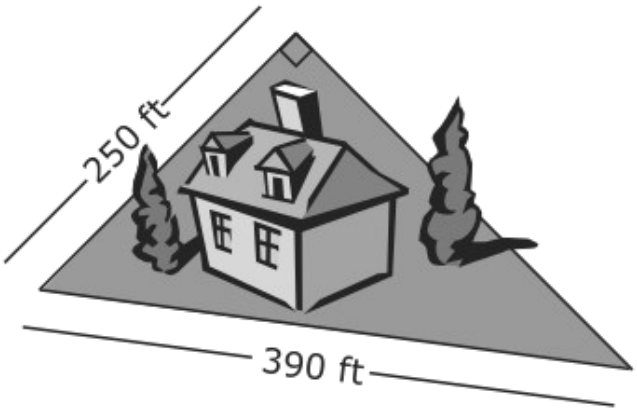
A. 4.5 inches, 6 inches, 7.5 inches

B. 5.5 feet, 6.5 feet, 9.5 feet

C. 10 inches, 12 inches, 16 inches

D. 10 meters, 15 meters, 20 meters

71. Allison purchased a piece of land shaped like a right triangle. The property line measures 390 ft in one direction and 250 ft in another direction, as shown below.



Approximately how many feet of fencing will Allison need to completely enclose her property?

A. 890 ft

B. 940 ft

C. 1,030 ft

D. 1,100 ft

72. A triangle has the coordinates (⁻2, ⁻2), (4, ⁻2), and (⁻4, ⁻6). The triangle will be dilated by a scale factor of 8. What will be the coordinates of the image triangle?

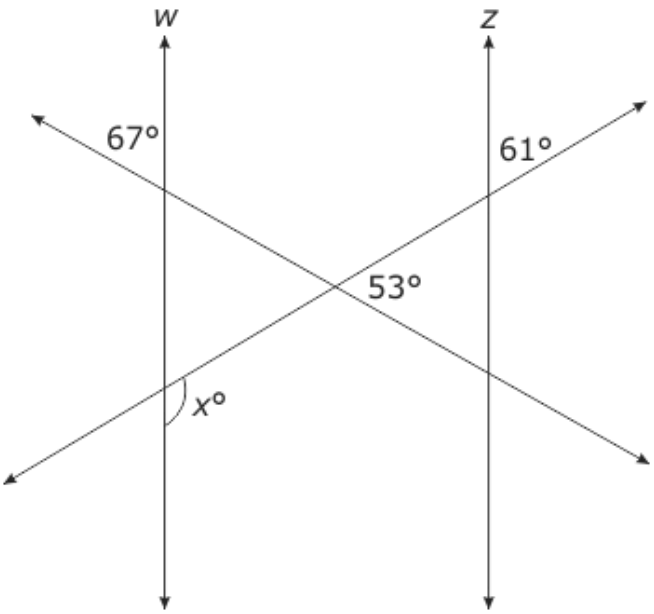
A. (16, 16), (⁻32, 16), and (32, 48)

B. (16, ⁻16), (32, ⁻16), and (⁻32, ⁻48)

C. (⁻16, 16), (⁻32, ⁻16), and (32, 48)

D. (⁻16, ⁻16), (32, ⁻16), and (⁻32, ⁻48)

73. In the figure below, lines *w* and *z* are parallel.



What is the measure of $\angle x$?

A. 127°

B. 120°

C. 119°

D. 113°

74. Triangle *XYZ* has vertices *X*(⁻1, 3), *Y*(⁻1, 1), and *Z*(⁻4, 1). Triangle *XYZ* will rotate 180° counterclockwise about the origin. What will be the coordinates of *Y'*?

A. (⁻1, ⁻3)

B. (⁻1, ⁻1)

C. (1, ⁻1)

D. (1, 1)

75. A cone has a diameter of 6 in. and a height of 11 in. What is the ***approximate*** volume of the cone?

A. 104 $in.^3$

B. 207 $in.^3$

C. 415 $in.^3$

76. A soccer ball has a diameter of 22 cm. What is the ***approximate*** volume of the soccer ball?

A. 4,180 cm^3

B. 5,575 cm^3

C. 10,650 cm^3

77. What is the ***approximate*** volume of a cylinder with diameter of 6 cm and height of 8.5 cm?

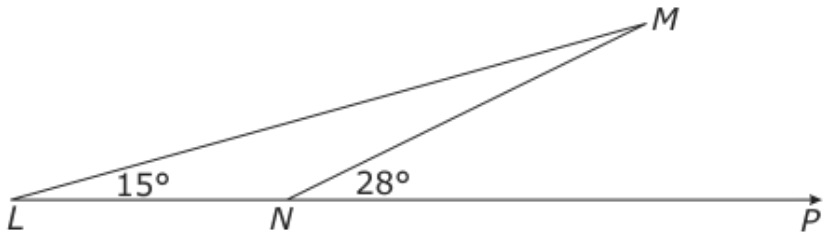
A. 160.2 cm^3

B. 240.3 cm^3

C. 480.6 cm^3

D. 961.3 cm^3

78. In the triangle below, what is the measure of $\angle LMN$?



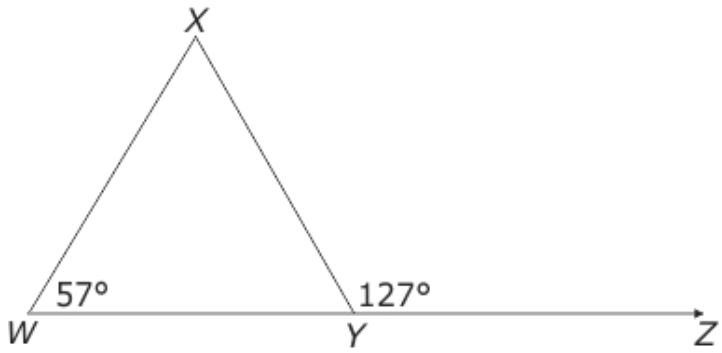
A. 13°

B. 15°

C. 28°

D. 43°

79. Triangle *WXY* is shown in the figure below.



What is the measure of $\angle WXY$?

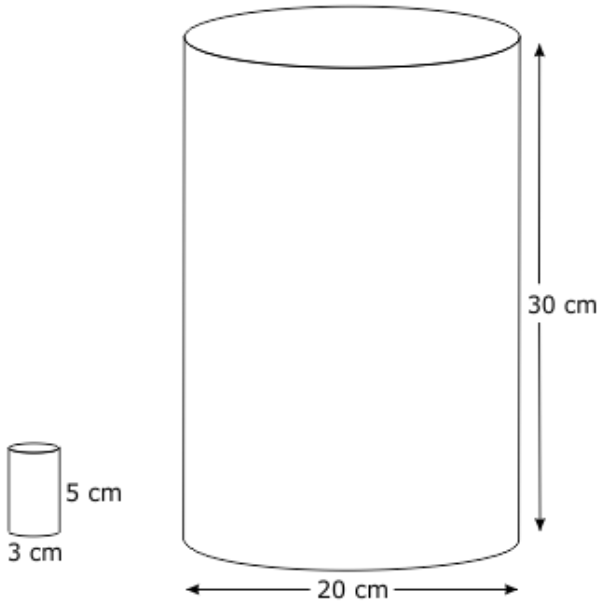
A. 70°

B. 62°

C. 53°

D. 33°

80. Michael is using a smaller cylinder with a diameter of 3 cm to fill a larger cylinder with a diameter of 20 cm with water.



About how many times will Michael have to fill the smaller cylinder to completely fill the larger cylinder?

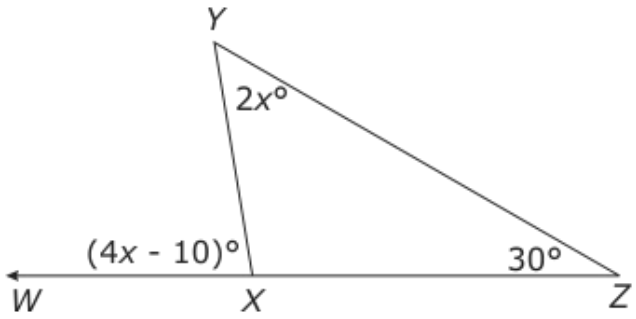
A. 40

B. 70

C. 200

D. 270

81. Triangle *XYZ* is shown below.



What is the measure of $\angle YXZ$?

A. 130°

B. 110°

C. 100°

D. 70°

82. A square has sides that measure 7.8 cm each. What is the ***approximate*** length of the diagonal of the square?

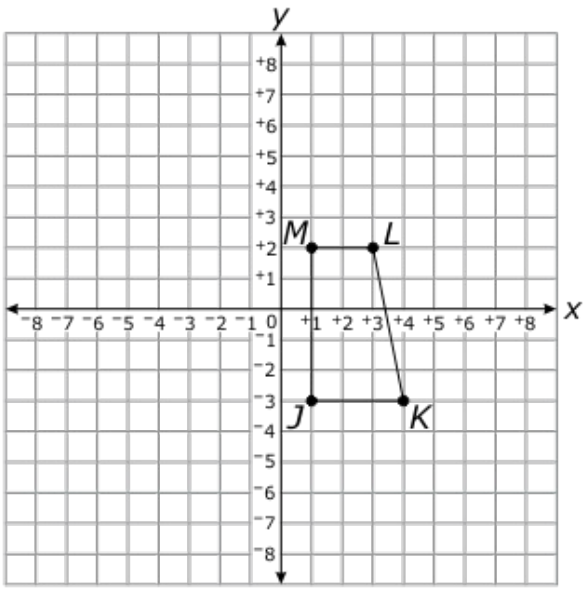
A. 10 cm

B. 11 cm

C. 12 cm

D. 13 cm

83. Trapezoid *JKLM* will be dilated by a scale factor of 3.



What will be the coordinates of *K*′?

A. (12, ⁻9)

B. (9, 6)

C. (4, ⁻2)

D. (⁻6, 12)

84. Triangle *LMN* has coordinates *L*(2, ⁻2), *M*(2, ⁻6), and *N*(5, ⁻3). The triangle will be dilated using a scale factor of 4. What will be the coordinates of the image triangle *L*′*M*′*N*′?

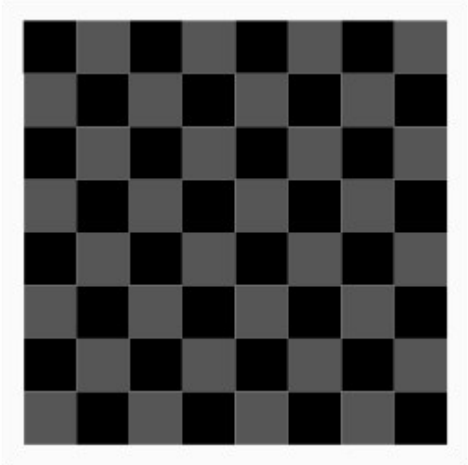
A. *L*′(0.5, ⁻0.5), *M*′(0.5, ⁻1.5), *N*′(1.25, ⁻0.75)

B. *L*′(2, ⁻8), *M*′(2, ⁻24), *N*′(5, ⁻12)

C. *L*′(8, ⁻2), *M*′(8, ⁻6), *N*′(20, ⁻3)

D. *L*′(8, ⁻8), *M*′(8, ⁻24), *N*′(20, ⁻12)

85. A checkerboard has 8 squares on each side. Each square has a side length of 5 cm.



What is the ***approximate*** distance of the diagonal of this board?

A. 28 cm

B. 40 cm

C. 57 cm

D. 80 cm

86. A television is 32 inches wide and 24 inches high. What is the diagonal measurement of the television?

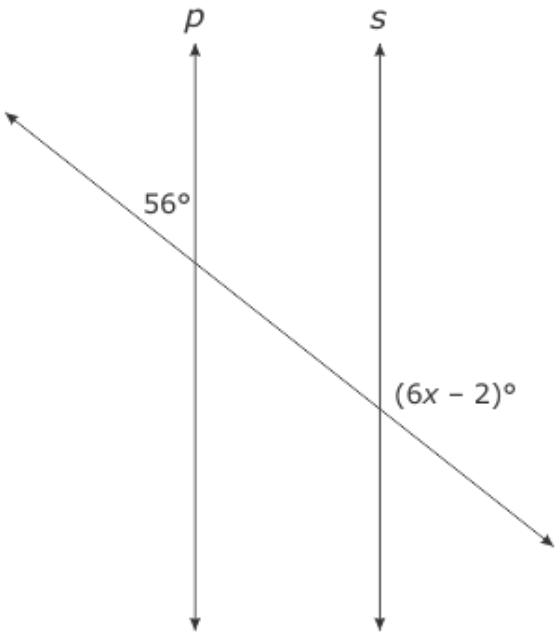
A. 56 inches

B. 40 inches

C. 28 inches

D. 21 inches

87. In the figure below, lines p and s are parallel.



What is the value of x?

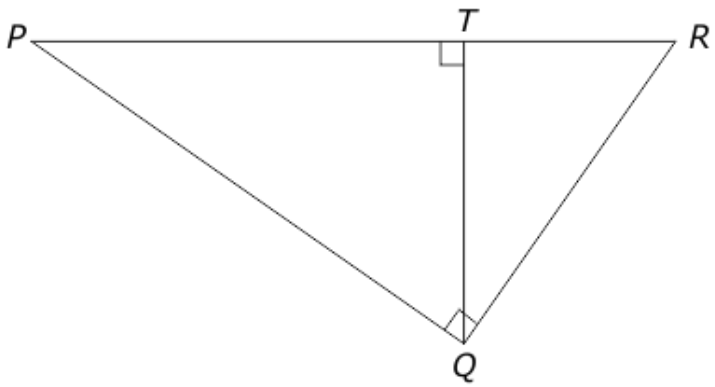
A. 10

B. 21

C. 30

D. 39

88. For triangle *PRQ* below, *QR* measures 8 cm, *PT* measures 12 cm, and *PQ* measures 14 cm.



What is the ***approximate*** length of *PR*?

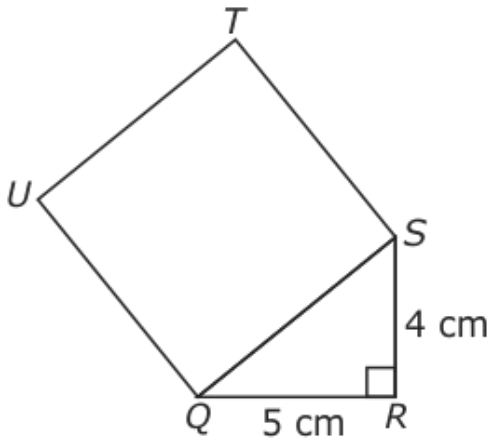
A. 3 cm

B. 7 cm

C. 16 cm

D. 22 cm

89. Pentagon *QRSTU* is shown below. The pentagon is formed from a square and a right triangle.



What is the area of the pentagon?

A. 31 cm^2

B. 41 cm^2

C. 51 cm^2

D. 61 cm^2

90. A wire runs from the top of a 24-foot pole to the ground 10 feet away from the pole. What is the length of the wire?

A. 17 feet

B. 22 feet

C. 26 feet

D. 34 feet

91. The hypotenuse of a right triangle is 34 mm. One of the legs of the triangle is 30 mm. What is the length of the other leg of the triangle?

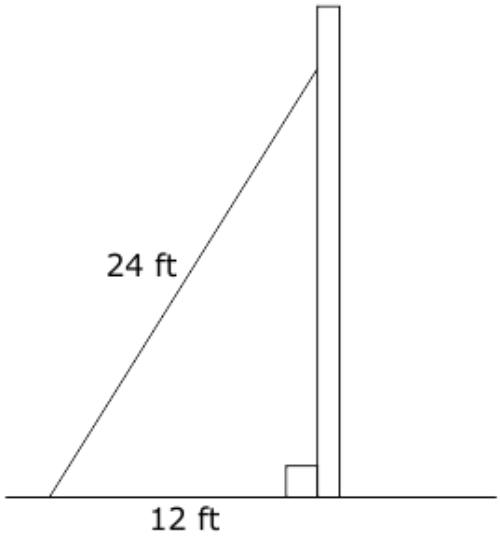
A. 4 mm

B. 16 mm

C. 45 mm

D. 64 mm

92. A wire is attached 2 ft from the top of the pole as shown below.



About how tall is the pole?

A. 26 ft

B. 23 ft

C. 21 ft

D. 20 ft

93. Rectangle *PQRS* will be rotated 90° clockwise about the origin. The coordinates of vertex *P* are (2, 2). What will be the coordinates of the image point *P'*?

A. $(^{-}2, ^{-}2)$

B. $(^{-}2, 2)$

C. $(2, ^{-}2)$

D. (2, 2)

94. Jenny baked a circular cake with a diameter of 9 inches and a height of 5 inches. She cuts the cake into 16 equal slices. What is the ***approximate*** volume of each slice of cake?

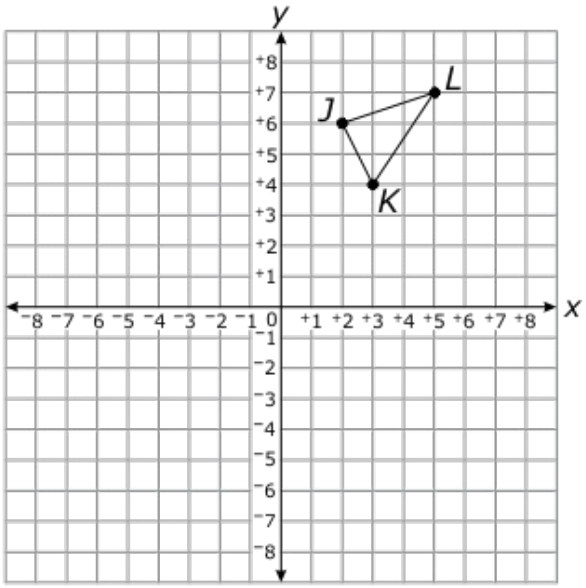
A. 4 inches^3

B. 9 inches^3

C. 18 inches^3

D. 20 inches^3

95. Triangle *JKL* will be rotated 270° clockwise about the origin.



What will be the coordinates of triangle *J'K'L'*?

A. *J'*(⁻6, 2), *K'*(⁻4, 3), *L'*(⁻7, 5)

B. *J'*(⁻2, 6), *K'*(⁻3, 4), *L'*(⁻5, 7)

C. *J'*(2, ⁻6), *K'*(3, ⁻4), *L'*(5, ⁻7)

D. *J'*(6,⁻2), *K'*(4,⁻3), *L'*(7,⁻5)

96. Triangle *MNP* has vertices at *M*(3, 4), *N*(5, 7), and *P*(3, 7). The triangle will be reflected over the *x*-axis. What will be the vertices of triangle *M'N'P'*?

A. *M'*(3, ⁻4), *N'*(5, ⁻7), *P'*(3, ⁻7)

B. *M'*(⁻3, 4), *N'*(⁻5, 7), *P'*(⁻3, 7)

C. *M'*(⁻3, ⁻4), *N'*(⁻5, ⁻7), *P'*(⁻3, ⁻7)

D. *M'*(3, 4), *N'*(5, 7), *P'*(3, 7)

97. The vertices of triangle *EFG* are *E*(⁻3, 2), *F*(⁻3, 0), and *G*(0, 0). The triangle will be reflected over the *x*-axis. What will be the vertices of the image triangle?

A. *E'*(⁻2, ⁻3), *F'*(0, ⁻3), *G'*(0, 0)

B. *E'*(⁻3, ⁻2), *F'*(⁻3, 0), *G'*(0, 0)

C. *E'*(3, ⁻2), *F'*(3, 0), *G'*(0, 0)

D. *E'*(2, 3), *F'*(0, 3), *G'*(0, 0)

98. Rectangle *RSTU* with vertices *R*(⁻6, ⁻2), *S*(⁻2, ⁻2), *T*(⁻2, ⁻4), and *U*(⁻6, ⁻4) is translated to *R'*(4, 6), *S'*(8, 6), *T'*(8, 4), and *U'*(4, 4). Which translation occurred to rectangle *RSTU*?

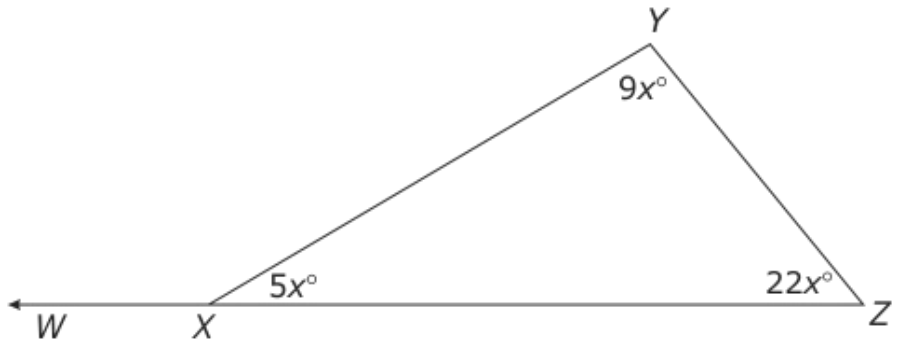
A. right 6 units and up 8 units

B. right 8 units and up 10 units

C. right 8 units and up 6 units

D. right 10 units and up 8 units

99. Triangle *XYZ* is shown below.



What is the measure of angle *WXY*?

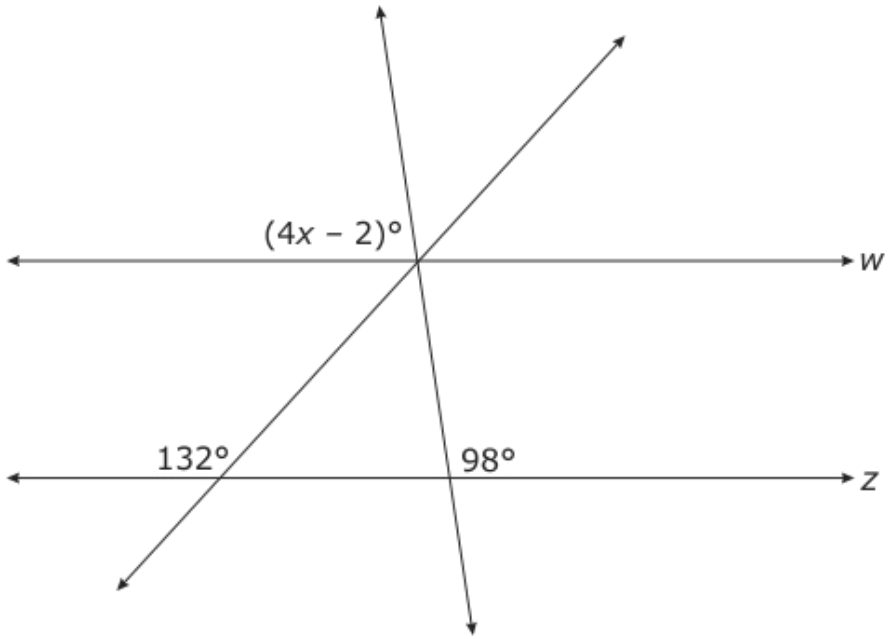
A. 110°

B. 135°

C. 155°

D. 160°

100. In the figure below, lines *w* and *z* are parallel.



What is the value of *x*?

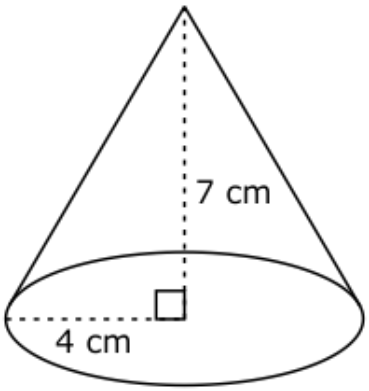
A. 21

B. 25

C. 30

D. 34

101. A cone is shown below.



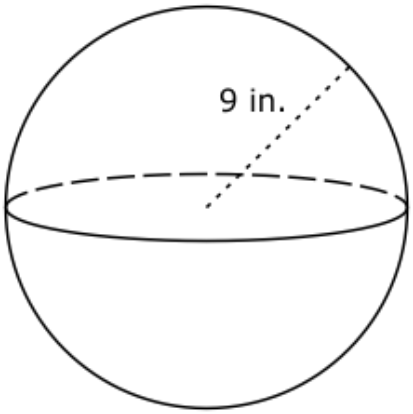
What is the ***approximate*** volume of the cone?

A. 117 cm^3

B. 175 cm^3

C. 352 cm^3

102. A sphere is shown below.



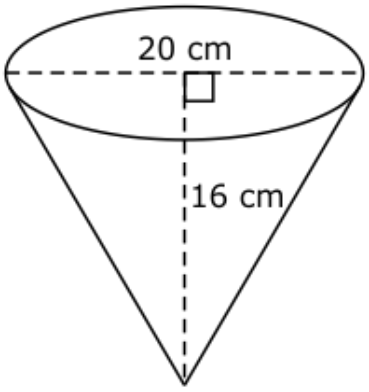
What is the ***approximate*** volume of the sphere?

A. 3,053 $in.^3$

B. 2,290 $in.^3$

C. 1,357 $in.^3$

103. The cone below has a diameter of 20 cm.



What is the ***approximate*** volume of the cone?

A. 1,005 cm^3

B. 1,676 cm^3

C. 5,026 cm^3

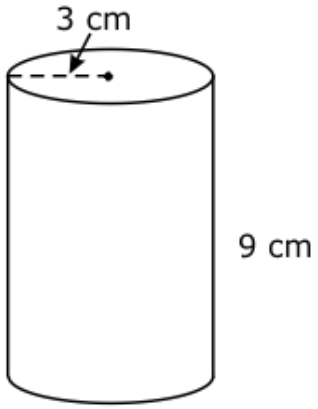
104. A cone-shaped hat has a height of 18 cm and a radius of 6 cm. What is the ***approximate*** volume of the cone?

A. 339 cm^3

B. 678 cm^3

C. 2,036 cm^3

105. A can in the shape of a cylinder is shown below.



What is the ***approximate*** volume of the can?

A. 255 cm^3

B. 170 cm^3

C. 85 cm^3

106. A trash can, in the shape of a cylinder, has a radius of 10 cm and a height of 30 cm. What is the ***approximate*** volume of the trash can?

A. 942 cm^3

B. 1,885 cm^3

C. 9,425 cm^3

107. Rectangle *MNOP* has vertices at *M*(2, 6), *N*(4, 6), *O*(4, ⁻1), and *P*(2, ⁻1). Rectangle *MNOP* will be reflected over the *y*-axis. What will be the coordinates of *P*′?

A. (⁻2, ⁻1)

B. (2, ⁻1)

C. (2, 1)

108. Triangle *FGH* has vertices at *F*(5, 7), *G*(8, 3), and *H*(5, 3). The triangle will be rotated 90° counterclockwise about the origin. What will be the coordinates of triangle *F'G'H'*?

A. *F'*(⁻5, ⁻7), *G'*(⁻8, ⁻3), and *H'*(⁻5, ⁻3)

B. *F'*(7, ⁻5), *G'*(3, ⁻8), and *H'*(3, ⁻5)

C. *F'*(⁻7, 5), *G'*(⁻3, 8), and *H'*(⁻3, 5)

109. Triangle *MNP* has coordinates *M*(⁻5, 6), *N*(⁻1, ⁻1), and *P*(3, 2). Triangle *MNP* will be translated 4 units down and 6 units right. What will be the coordinates of *P'*?

A. (⁻1, 8)

B. (7, 8)

C. (9, ⁻2)

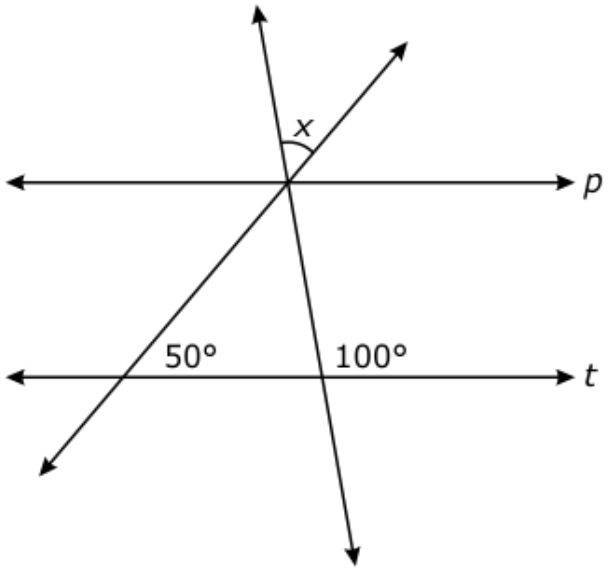
110. Triangle *EFG* has vertices at *E*(⁻2, ⁻4), *F*(⁻6, ⁻3), and *G*(⁻3, ⁻7). Triangle *EFG* will be translated 4 units to the left. What will be the coordinates of *E'*?

A. (⁻6, ⁻4)

B. (⁻2, 0)

C. (2, ⁻4)

111. In the figure below, lines p and t are parallel.



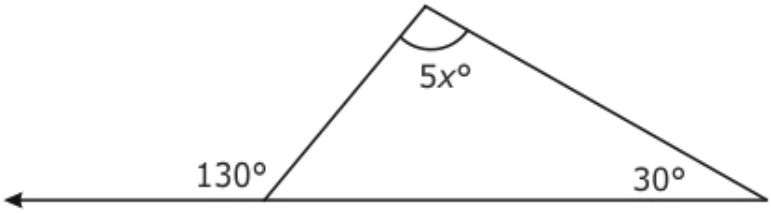
What is the measure of $\angle x$?

A. 30°

B. 50°

C. 80°

112. What is the value of x in the figure below?

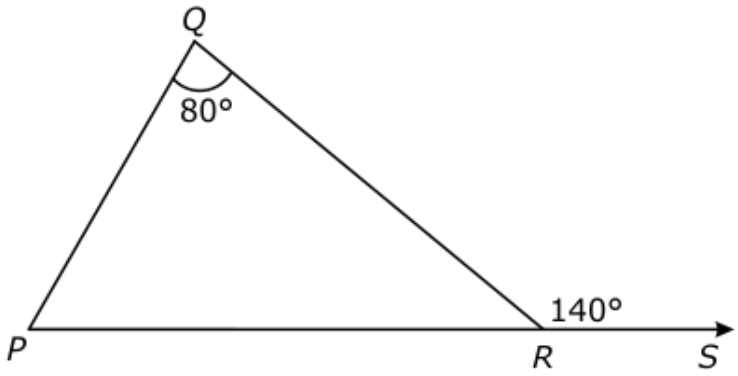


A. 15

B. 20

C. 30

113. Triangle *PQR* is shown below.



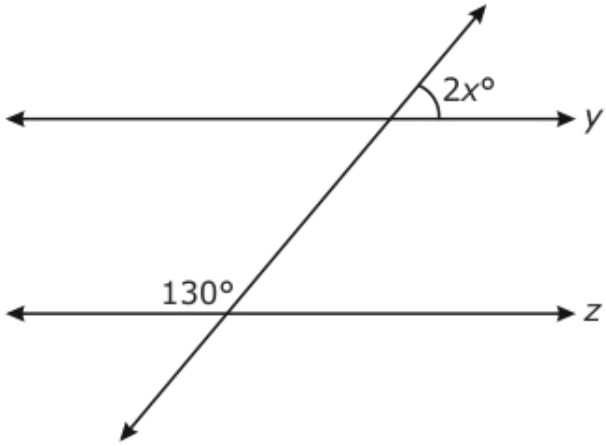
What is the measure of angle *QPR*?

A. 40°

B. 60°

C. 100°

114. In the figure below, lines *y* and *z* are parallel.



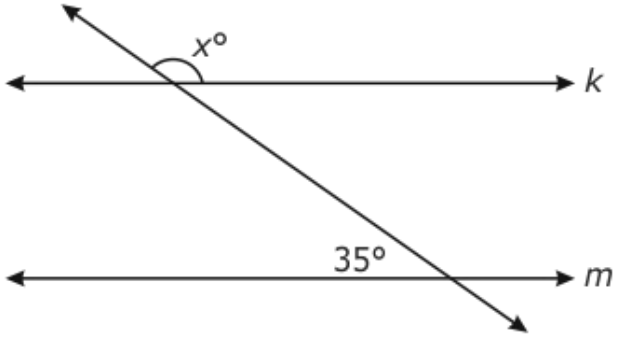
What is the value of *x*?

A. 25°

B. 40°

C. 50°

115. In the figure below, lines k and m are parallel.



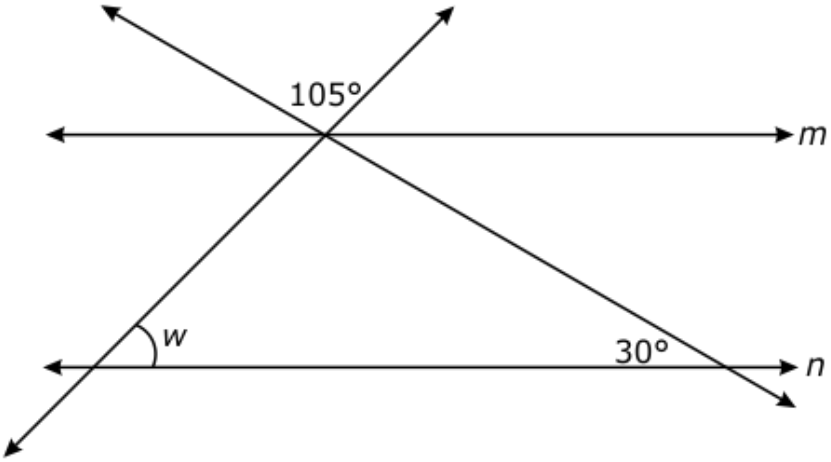
What is the value of x?

A. 55

B. 115

C. 145

116. In the figure below, lines m and n are parallel.



What is the measure of $\angle w$?

A. 30°

B. 45°

C. 75°

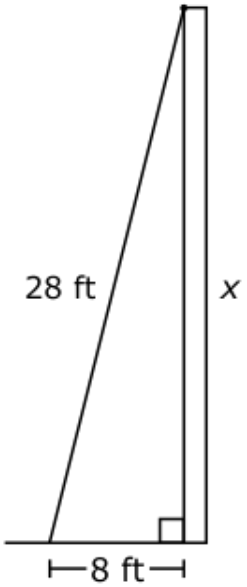
117. A rectangular monitor measures 28 cm tall and 50 cm wide. What is the ***approximate*** diagonal measurement of the monitor?

A. 41 cm

B. 57 cm

C. 72 cm

118. A 28-ft wire is attached to the top of a pole and runs to the ground as shown below.



About how tall is the pole, *x*?

A. 18 ft

B. 20 ft

C. 27 ft

119. Triangle *EFG* has vertices at *E*(⁻2, 3), *F*(5, 3), and *G*(5, ⁻3). What is the ***approximate*** length of line segment *EG*?

A. 9 units

B. 11 units

C. 13 units

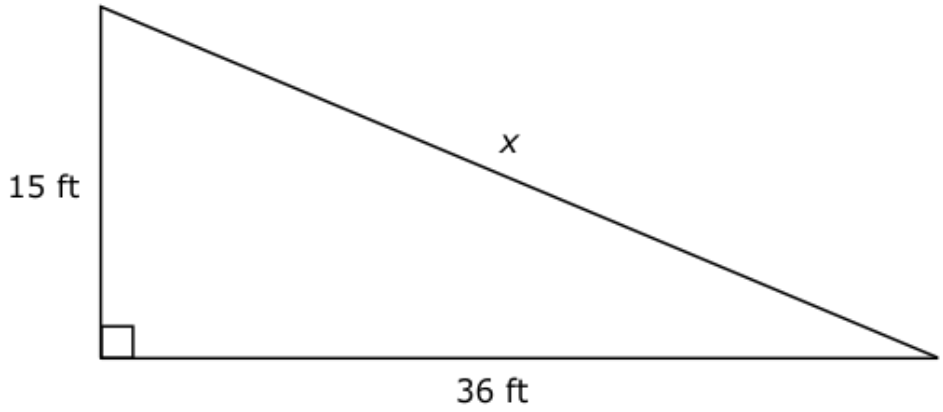
120. What is the ***approximate*** distance between the points (3, 9) and (7, 2)?

A. 7 units

B. 8 units

C. 11 units

121. What is the length of the hypotenuse, *x*, in the right triangle below?

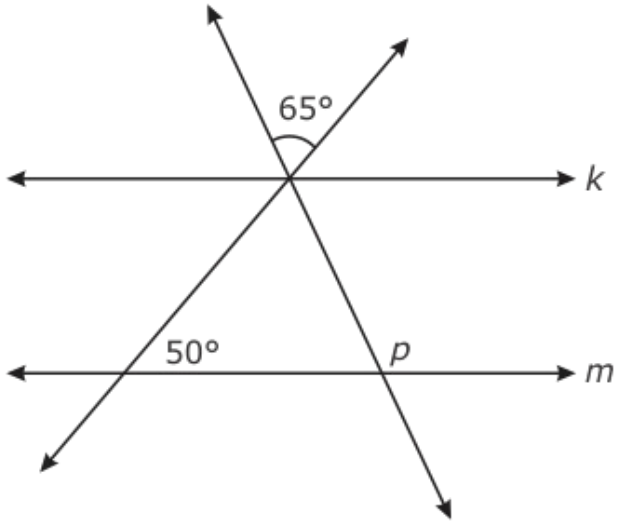


A. 39 ft

B. 51 ft

C. 57 ft

122. In the figure below, lines k and m are parallel.



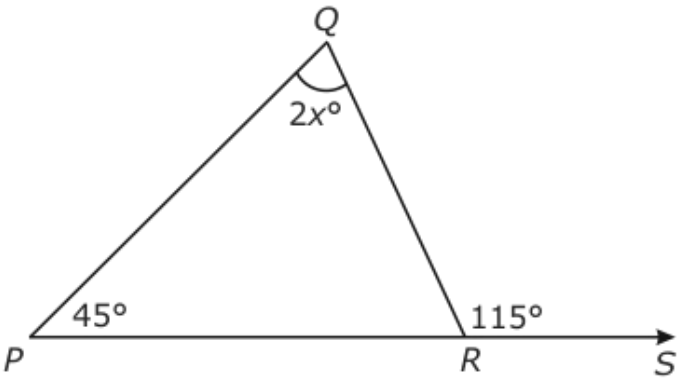
What is the measure of $\angle p$?

A. 130°

B. 125°

C. 115°

123. Triangle PQR is shown below.



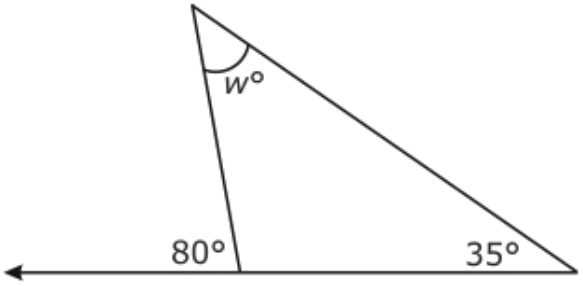
What is the value of x?

A. 30

B. 35

C. 40

124. What is value of *w* in the figure below?

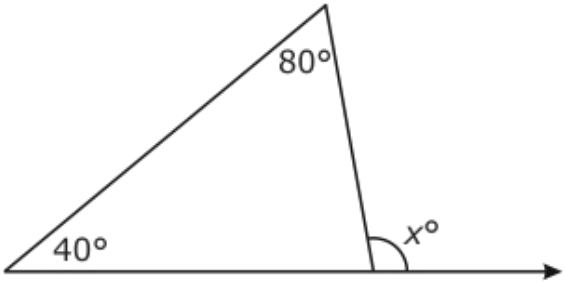


A. 45

B. 65

C. 100

125. What is the value of *x* in the figure below?

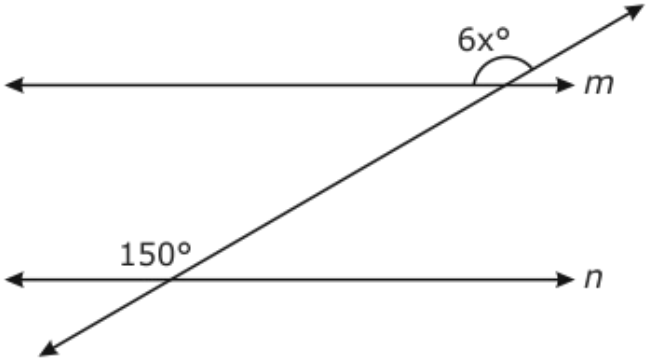


A. 100

B. 120

C. 140

126. In the figure below, lines *m* and *n* are parallel.



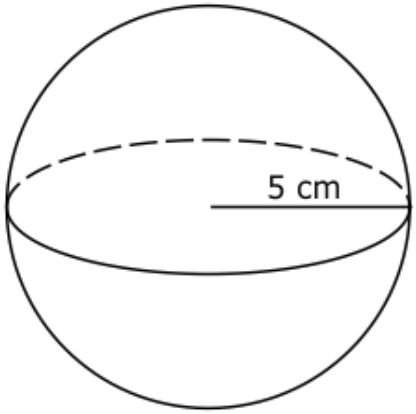
What is the value of *x*?

A. 25

B. 30

C. 50

127. A ball with a radius of 5 cm is shown below.



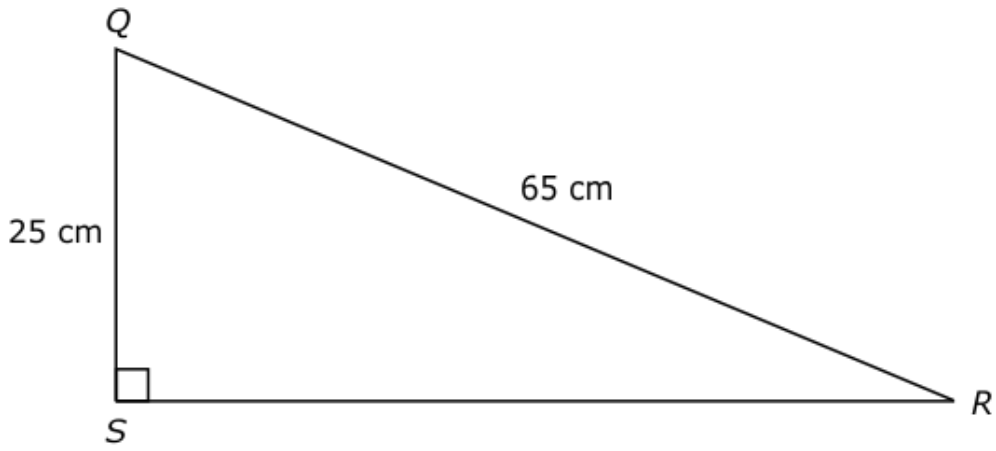
What is the ***approximate*** volume of the ball?

A. 79 cm^3

B. 393 cm^3

C. 524 cm^3

128. Triangle *QRS* is shown below.



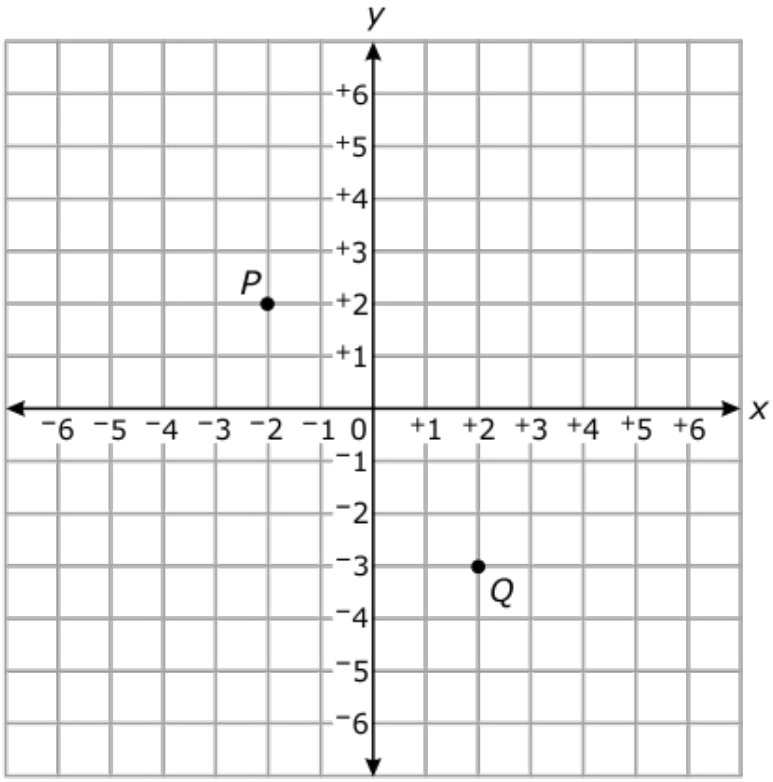
What is the measure of side *RS*?

A. 40 cm

B. 50 cm

C. 60 cm

129. What is the ***approximate*** distance between points *P* and *Q* on the graph below?

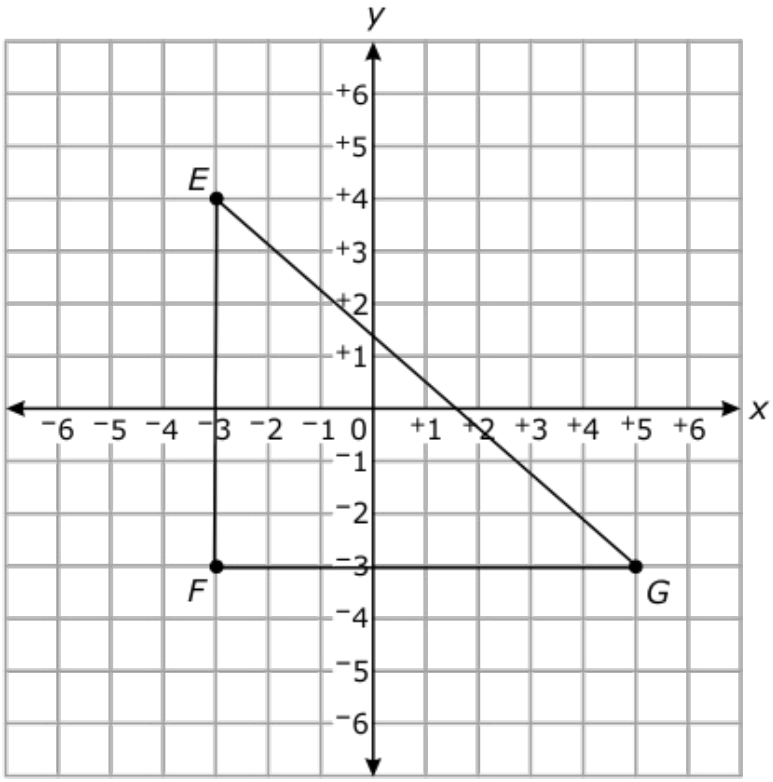


A. 5.5 units

B. 6.4 units

C. 9.0 units

130. Triangle *EFG* is shown on the graph below.



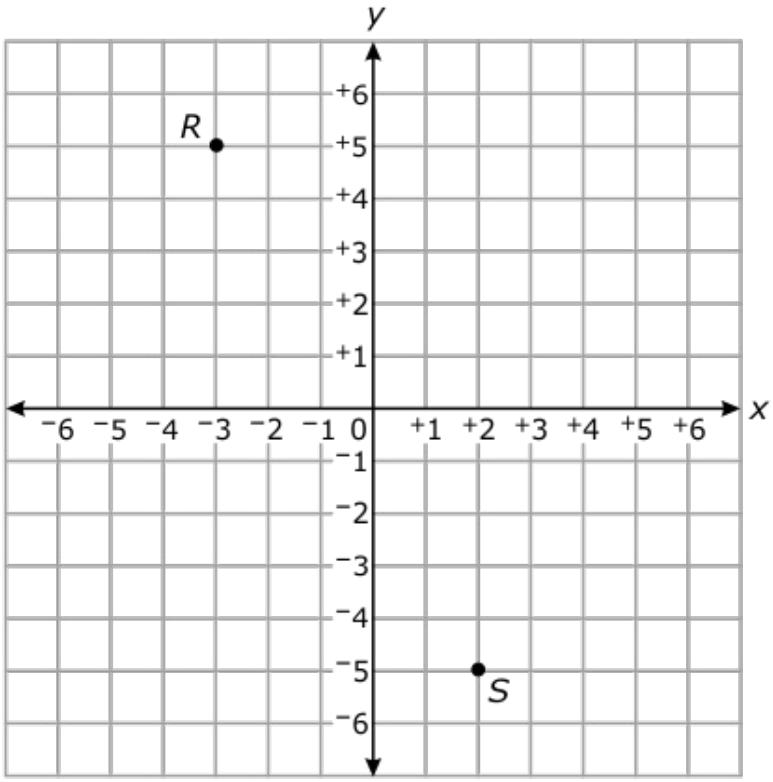
What is the ***approximate*** length of line segment *EG*?

A. 8.5 units

B. 9.0 units

C. 10.6 units

131. What is the ***approximate*** distance between points *R* and *S* on the graph below?

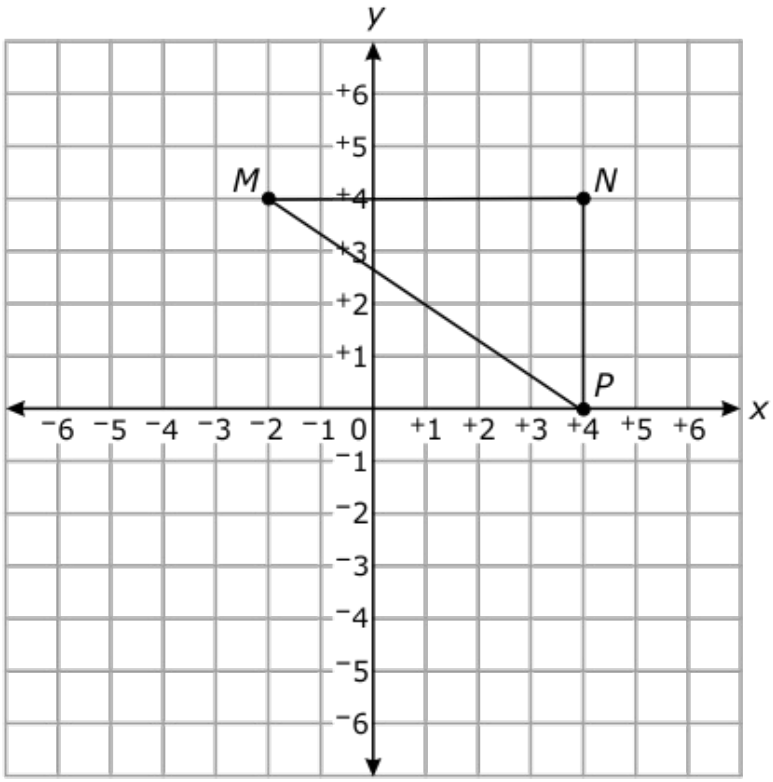


A. 11 units

B. 13 units

C. 15 units

132. Triangle *MNP* is shown below.



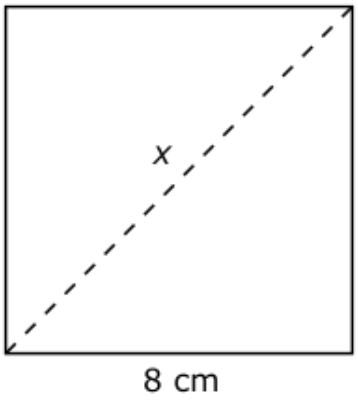
What is the ***approximate*** length of line segment *MP*?

A. 5 units

B. 6 units

C. 7 units

133. What is the ***approximate*** measure of the diagonal, x, of the square below?

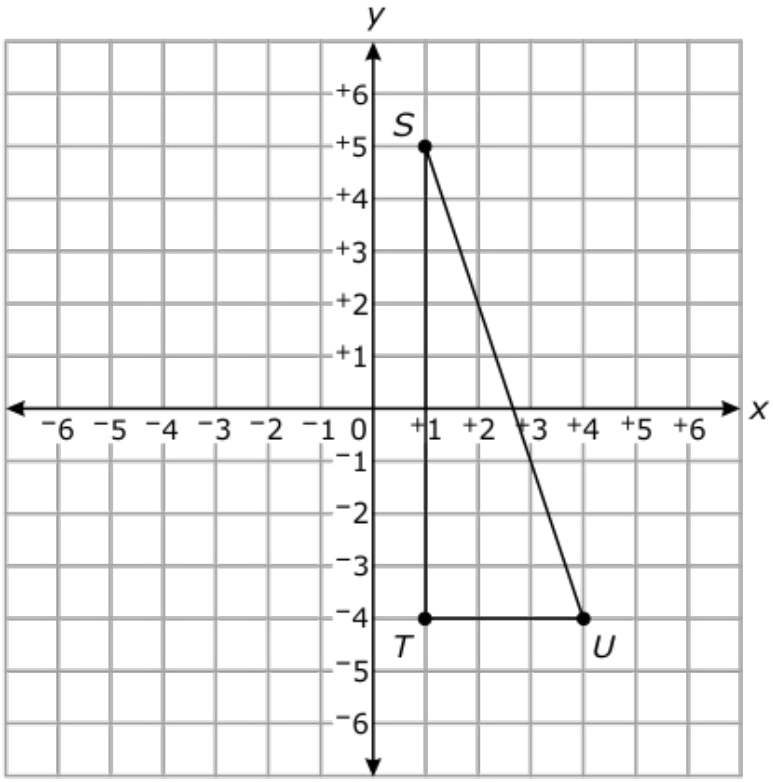


A. 8 cm

B. 11 cm

C. 16 cm

134. Triangle *STU* is shown below.



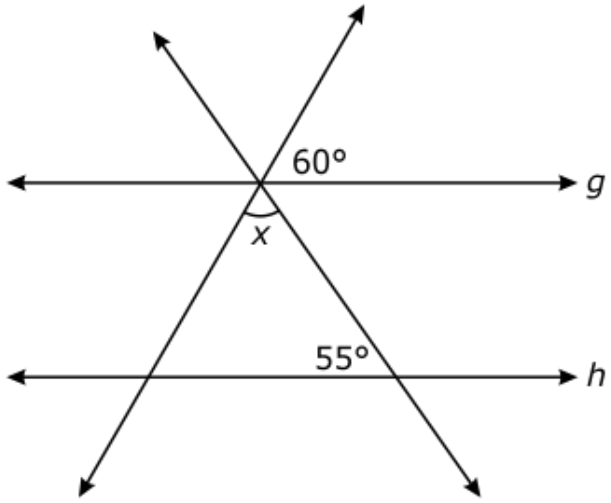
What is the ***approximate*** length of line segment *SU*?

A. 9.5 units

B. 8.5 units

C. 7.5 units

135. In the figure below, lines *g* and *h* are parallel.



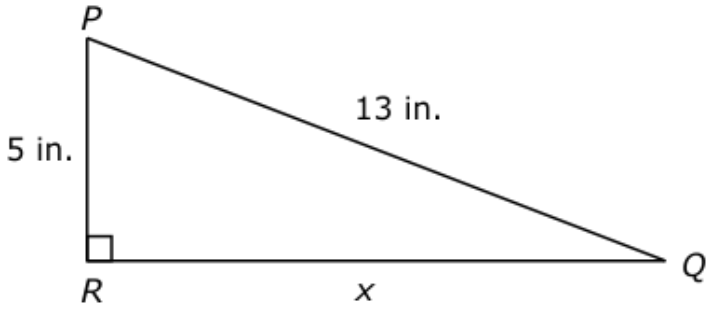
What is the measure of $\angle x$?

A. 55°

B. 60°

C. 65°

136. Triangle *PQR* is shown below.



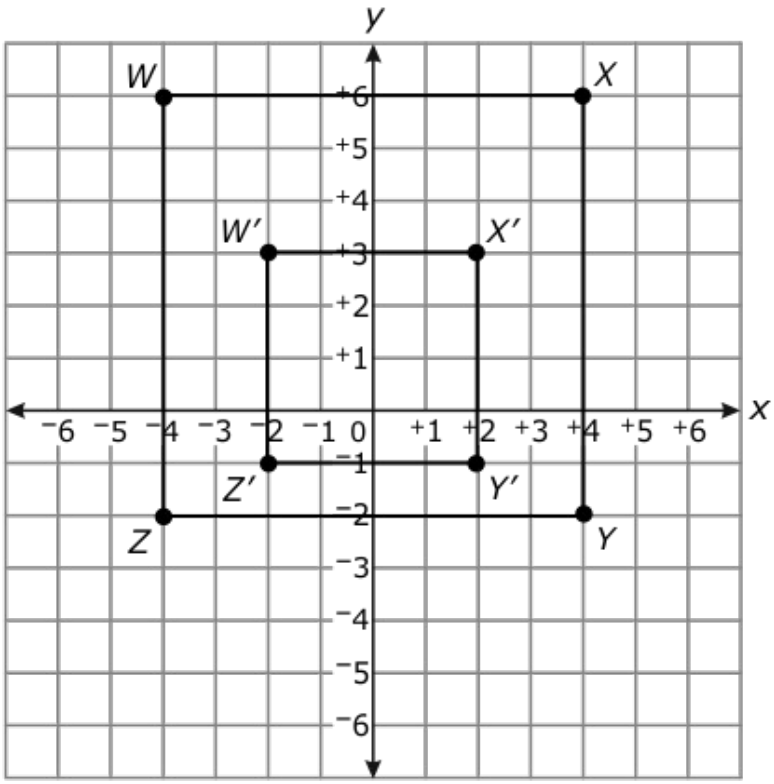
What is the measure of side *QR*?

A. 8 in.

B. 12 in.

C. 14 in.

137. On the graph below, square *WXYZ* was dilated to create square *W′X′Y′Z′*.



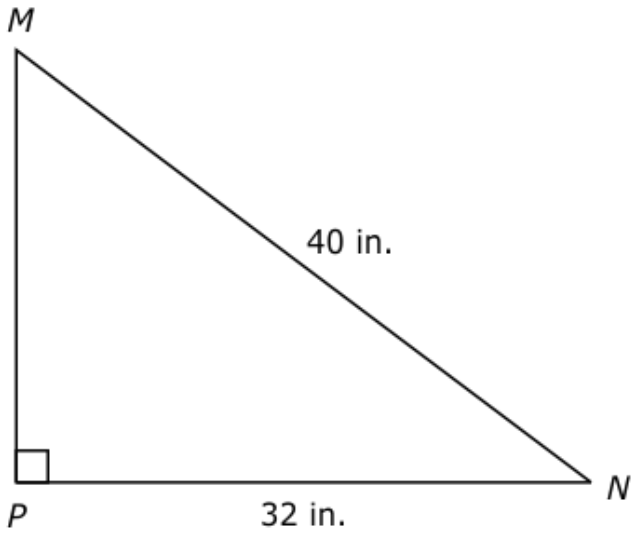
What scale factor was used for this dilation?

A. $\frac{1}{3}$

B. $\frac{1}{2}$

C. 2

138. Triangle *MNP* is shown below.



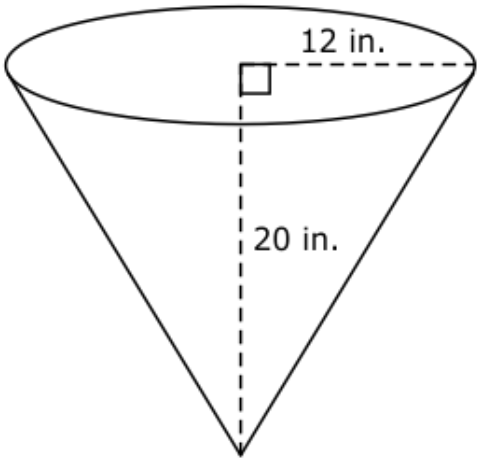
What is the measure of side *MP*?

A. 24 in.

B. 36 in.

C. 51 in.

139. What is the ***approximate*** volume of the cone below?

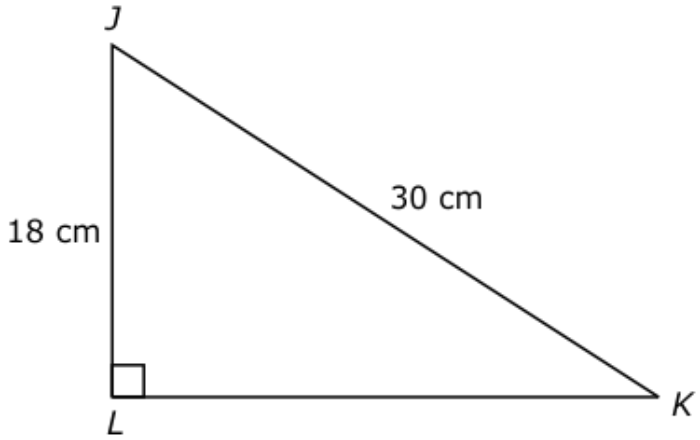


A. 503 $in.^3$

B. 754 $in.^3$

C. 3,015 $in.^3$

140. Triangle *JKL* is shown below.



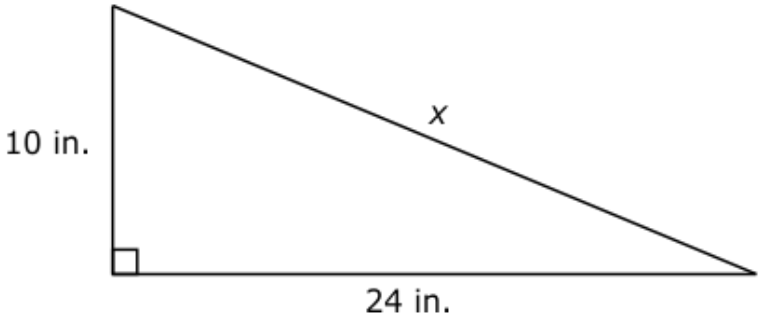
What is the measure of side *KL*?

A. 12 cm

B. 24 cm

C. 35 cm

141. What is the length of the hypotenuse, *x*, in the right triangle below?

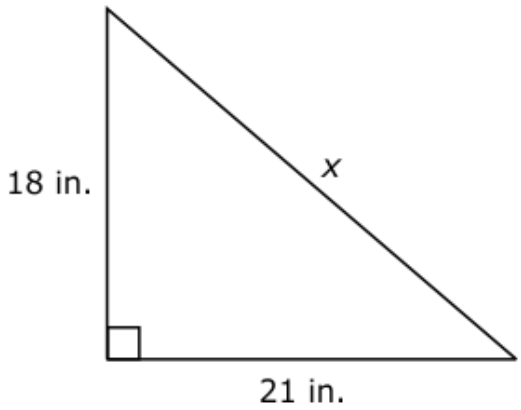


A. 34 in.

B. 28 in.

C. 26 in.

142. What is the ***approximate*** length of the hypotenuse, *x*, in the right triangle below?

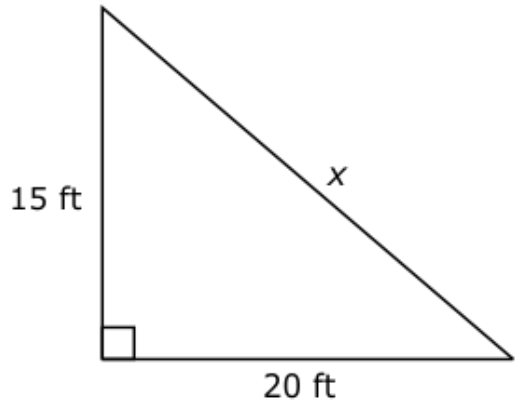


A. 24 in.

B. 28 in.

C. 39 in.

143. A right triangle is shown below.



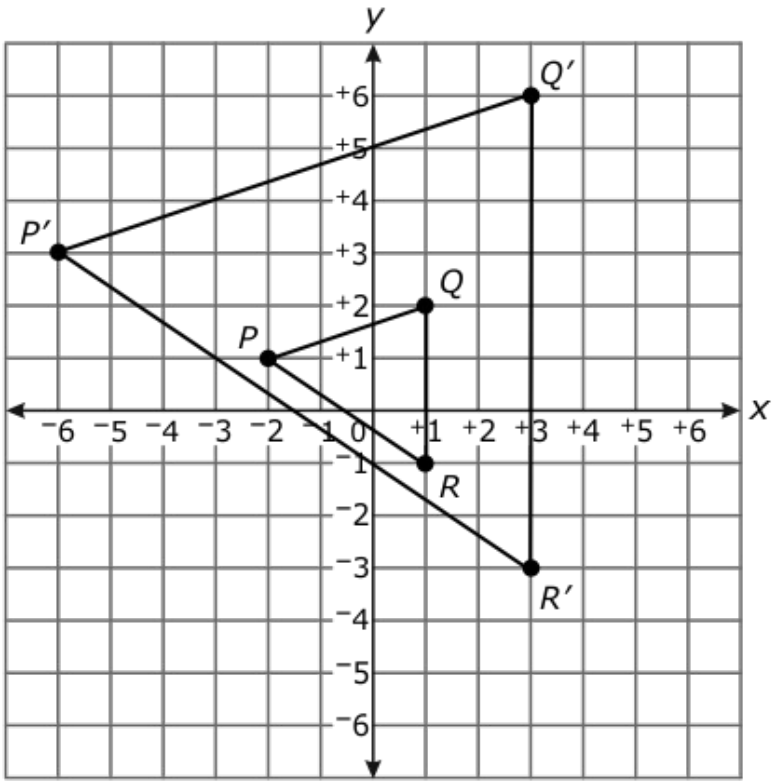
What is the measure of the missing side, *x*, of the triangle?

A. 35 ft

B. 30 ft

C. 25 ft

144. On the graph below, triangle *PQR* was dilated to create triangle *P′Q′R′*.



What scale factor was used for this dilation?

A. $\frac{1}{3}$

B. 2

C. 3

145. Square *PQRS* has vertices at *P*(0, 0), *Q*(0, ⁻4), *R*(⁻4, ⁻4), and *S*(⁻4, 0). The square will be dilated by a factor of 0.25. What will be the coordinates of *R′*?

A. (⁻4.25, ⁻4.25)

B. (⁻1, ⁻4)

C. (⁻1, ⁻1)

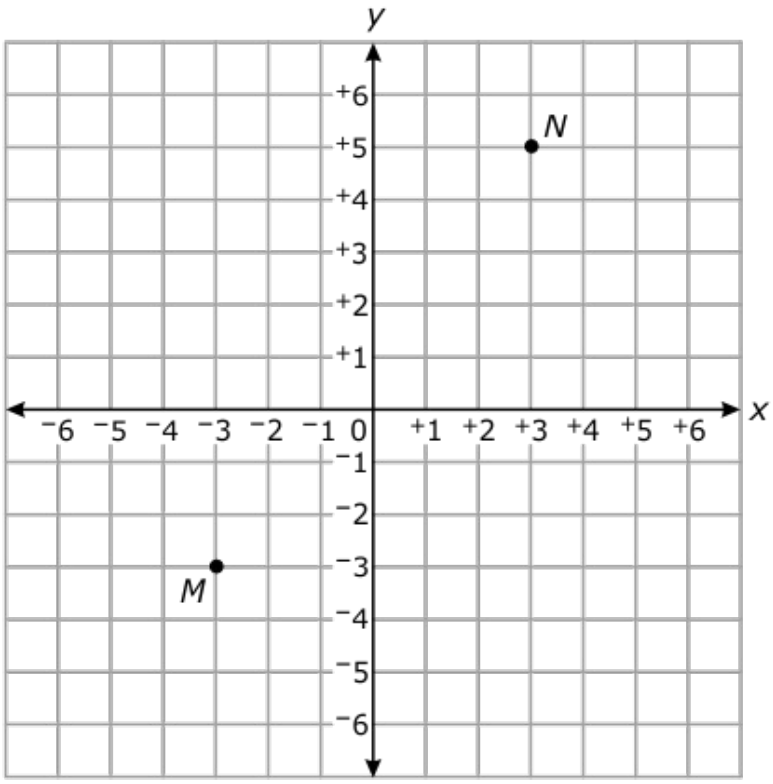
146. Rectangle *EFGH* has vertices at *E*(⁻3, 3), *F*(6, 3), *G*(6, ⁻3), and *H*(⁻3, ⁻3). The rectangle will be dilated by a scale factor of $\frac{1}{3}$. What will be the coordinates of *G*′?

A. (2, ⁻1)

B. (2, ⁻3)

C. (3, ⁻6)

147. What is the distance between points *M* and *N* in the graph below?



A. 8 units

B. 9 units

C. 10 units

148. Triangle *MNP* has vertices at *M*(1, 1), *N*(4, 2), and *P*(1, 3). Triangle *MNP* will be reflected over the *y*-axis. What are the coordinates of triangle *M'N'P'*?

A. *M'*(1, ⁻1), *N'*(4, ⁻2), *P'*(1, ⁻3)

B. *M'*(⁻1, 1), *N'*(⁻4, 2), *P'*(⁻1, 3)

C. *M'*(⁻1, ⁻1), *N'*(⁻4, ⁻2), *P'*(⁻1, ⁻3)

149. Triangle *XYZ* has the vertices at *X*(3, 1), *Y*(7, 1), and *Z*(3, 4). What is the length of line segment *YZ*?

A. 4 units

B. 5 units

C. 7 units

150. What is the ***approximate*** distance between the points (3, ⁻1) and (⁻5, 7)?

A. 8 units

B. 10 units

C. 11 units

151. What is the ***approximate*** length of a line segment with the endpoints at (⁻2, 5) and (3, 0)?

A. 5 units

B. 6 units

C. 7 units

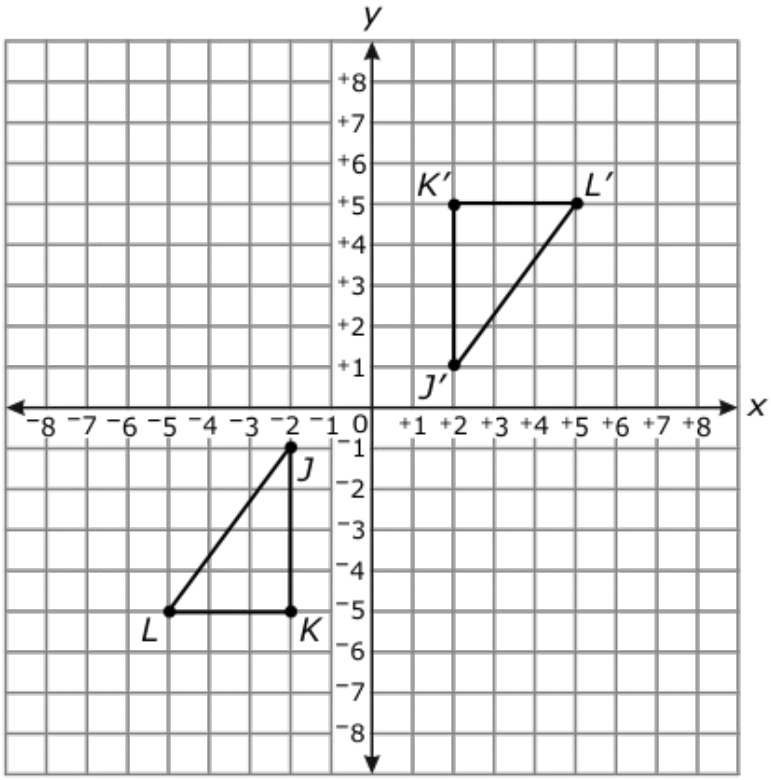
152. Line segment *GH* has endpoints at *G*(⁻1, ⁻1) and *H*(2, 2). What is the ***approximate*** length of line segment *GH*?

A. 3 units

B. 4 units

C. 6 units

153. Triangle *JKL* was transformed one time to triangle *J′K′L′*.



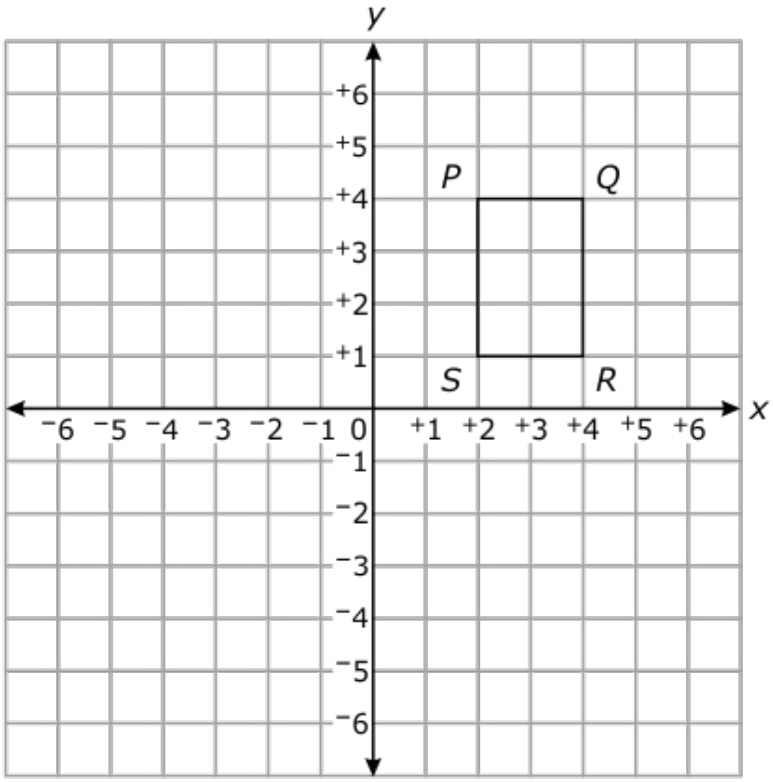
What type of transformation occurred?

A. translation

B. rotation

C. reflection

154. Rectangle *PQRS* will be reflected over the *x*-axis.



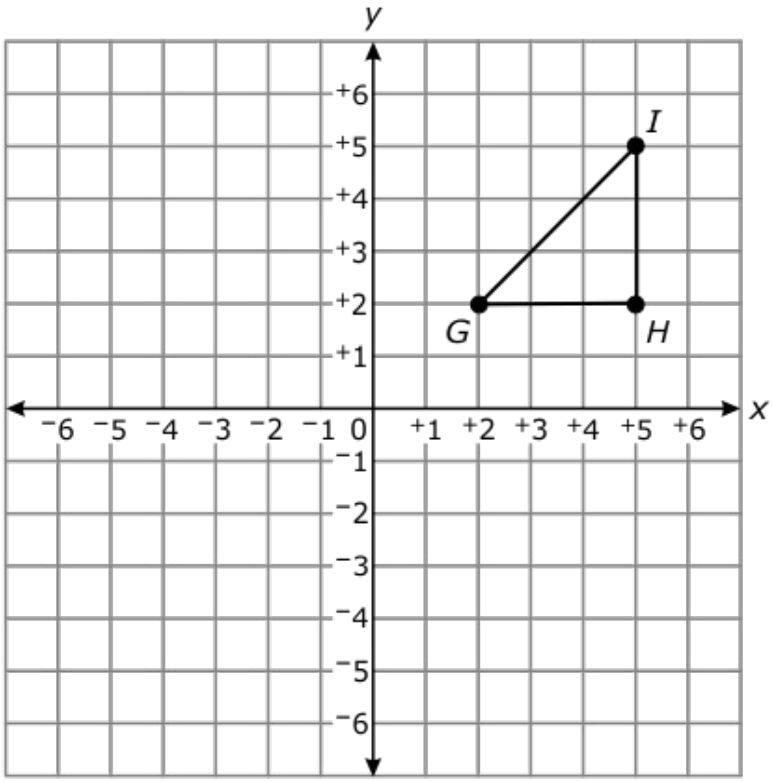
What are the coordinates of rectangle *P'Q'R'S'*?

A. *P'*(⁻2, 4), *Q'*(⁻4, 4), *R'*(⁻4, 1), *S'*(⁻2, 1)

B. *P'*(2, ⁻4), *Q'*(4, ⁻4), *R'*(4, ⁻1), *S'*(2, ⁻1)

C. *P'*(4, ⁻2), *Q'*(4, ⁻4), *R'*(1, ⁻4), *S'*(1, ⁻2)

155. Triangle *GHI* will be rotated 270° clockwise about the origin.



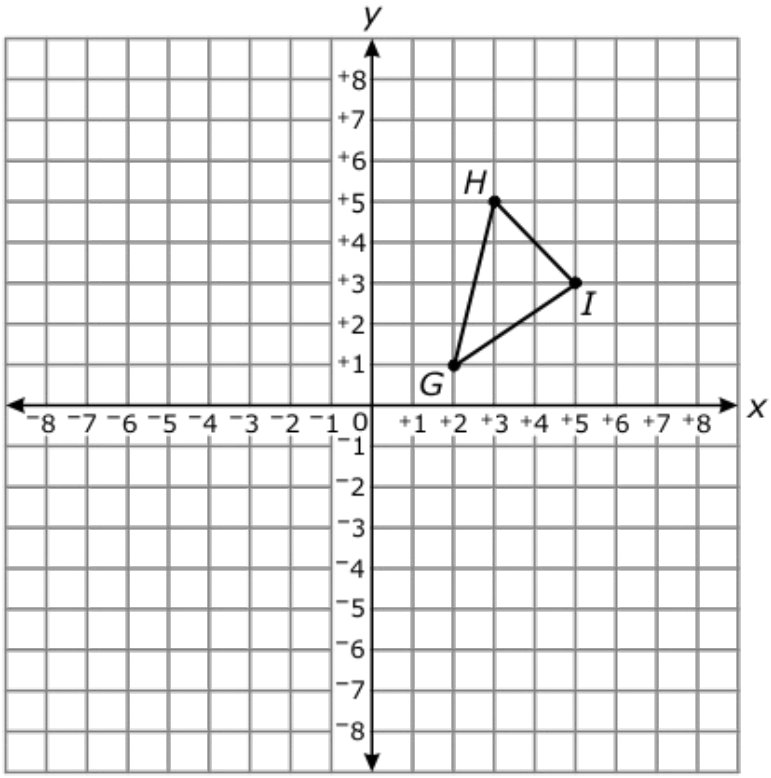
What will be the coordinates of *I'*?

A. (⁻5, 5)

B. (⁻5, ⁻5)

C. (5, ⁻5)

156. Triangle *GHI* will be reflected across the *x*-axis.



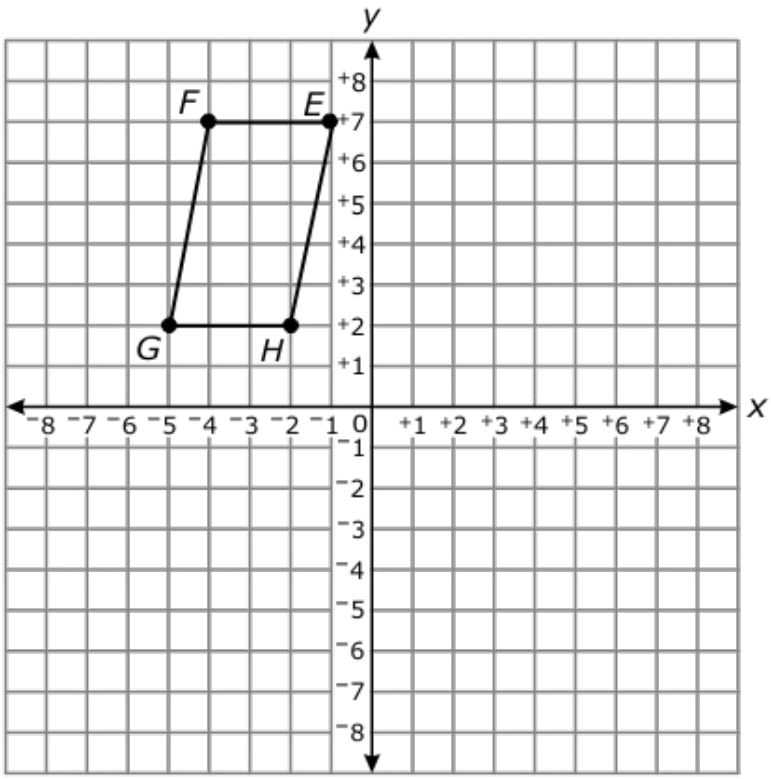
What will be the coordinates of *H'*?

A. $(^{-}5, 3)$

B. $(^{-}3, 5)$

C. $(3, ^{-}5)$

157. Parallelogram *EFGH* will be translated 4 units down and 2 units to the right.



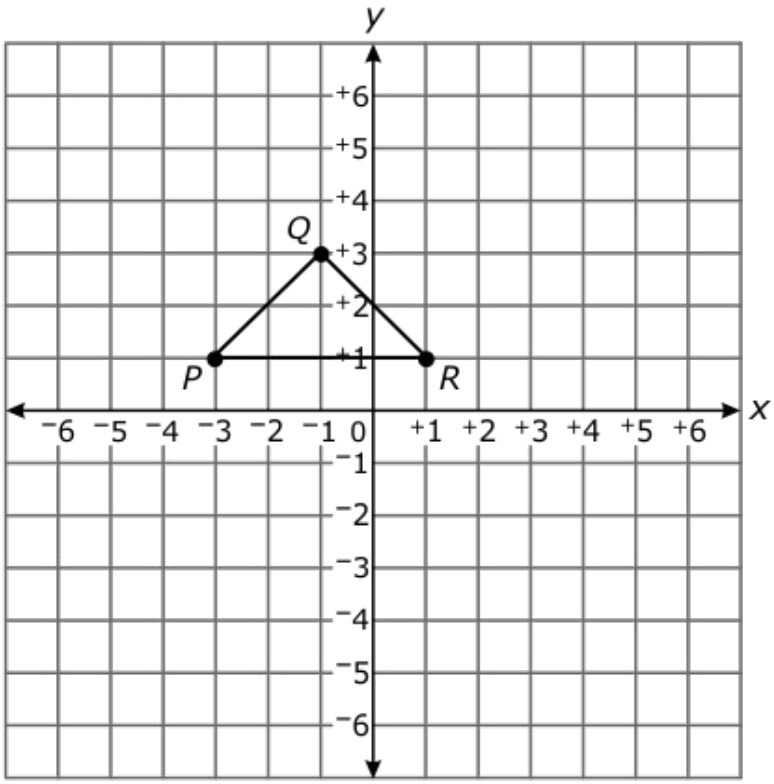
What will be the coordinates of *H'*?

A. $(0, -2)$

B. $(-2, 0)$

C. $(-2, -4)$

158. Triangle *PQR* will be dilated by a scale factor of 3.



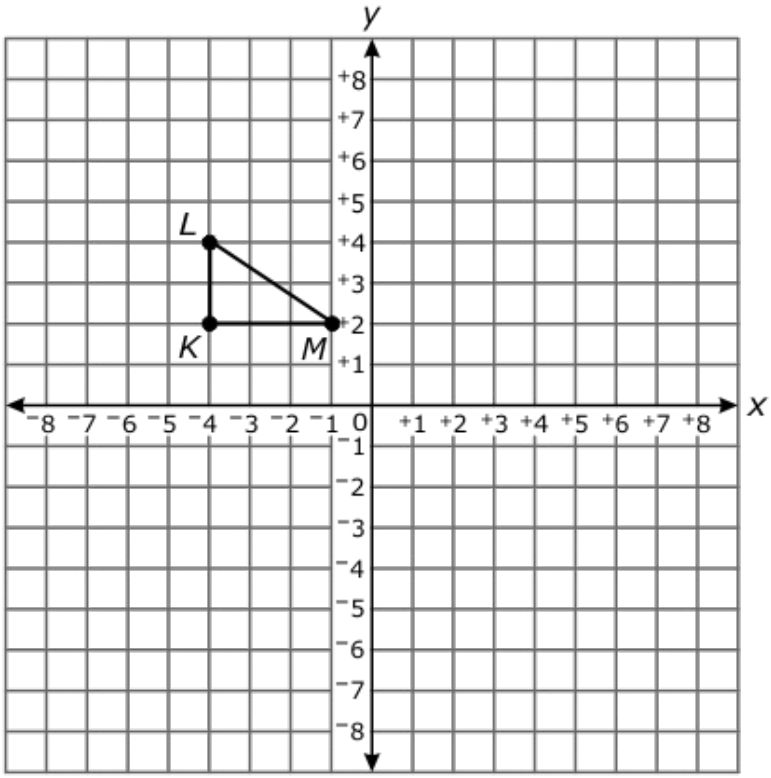
What will be the coordinates of *P'*?

A. (9, ⁻3)

B. (0, 4)

C. (⁻9, 3)

159. Triangle *KLM* will be rotated 180° counterclockwise about the origin.



What will be the coordinates of *K'*?

A. (4, 2)

B. (4, ⁻2)

C. (2, ⁻4)

160. △*JKL* has vertices *J*(⁻3, ⁻8), *K*(⁻3, ⁻12,), and *L*(8, ⁻12). What is the ***approximate*** perimeter of △*JKL*?

A. 11.7 units

B. 15.7 units

C. 26.7 units

D. 63.0 units

161. $\triangle JKL$ has vertices at $J(2, 4)$, $K(2, -3)$, and $L(-6, -3)$. What is the ***approximate*** length of line segment JL?

A. 9 units

B. 11 units

C. 15 units

D. 18 units

162. Triangle MNP has vertices at $M(-6, 1)$, $N(-6, 6)$, and $P(4, 1)$. What is the ***approximate*** perimeter of triangle MNP?

A. 11.2 units

B. 21.0 units

C. 26.2 units

D. 29.3 units

163. Triangle XYZ has vertices at $X(-3, -3)$, $Y(-3, -4)$, and $Z(4, -4)$. What is the ***approximate*** perimeter of triangle XYZ?

A. 12 units

B. 15 units

C. 24 units

D. 58 units

164. The vertices of triangle PQR are located at $P(-3, -6)$, $Q(-3, -1)$, and $R(6, -1)$. What is the ***approximate*** length of the hypotenuse of triangle PQR?

A. 10.3 units

B. 11.5 units

C. 81.0 units

D. 106.0 units

165. A square has vertices $J(0, 0)$, $K(6, 0)$, $L(6, 6)$, and $M(0, 6)$. What is the ***approximate*** length of a diagonal of square $JKLM$?

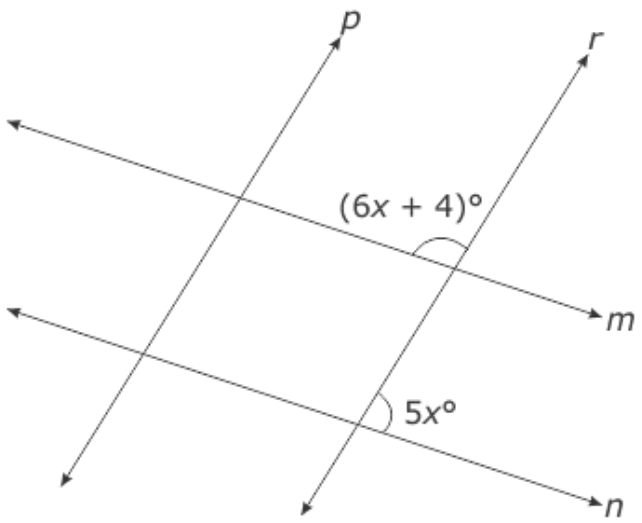
A. 4.9 units

B. 6.0 units

C. 8.5 units

D. 12.0 units

166. In the figure below, lines p and r are parallel. Lines m and n are parallel.



What is the value of x?

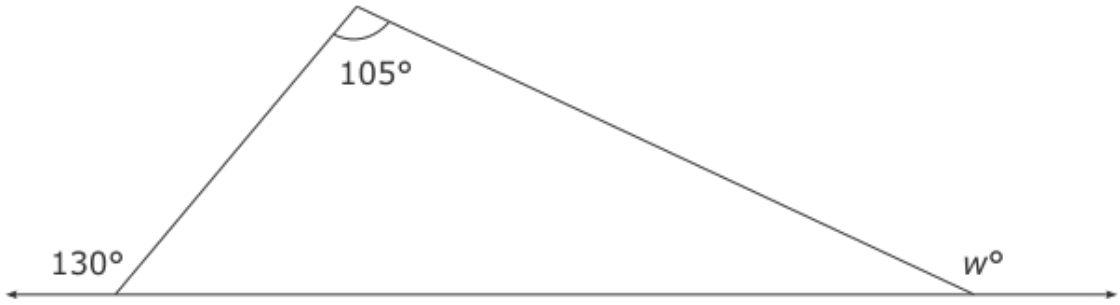
A. 16

B. 17

C. 29

D. 36

167. What is the measure of $\angle w$ in the figure below?



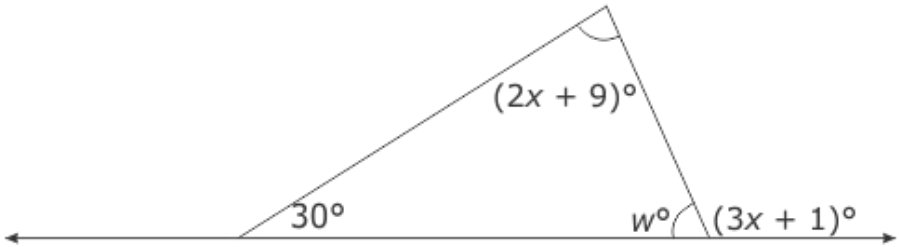
A. 130°

B. 135°

C. 150°

D. 155°

168. What is the measure of $\angle w$ in the figure below?



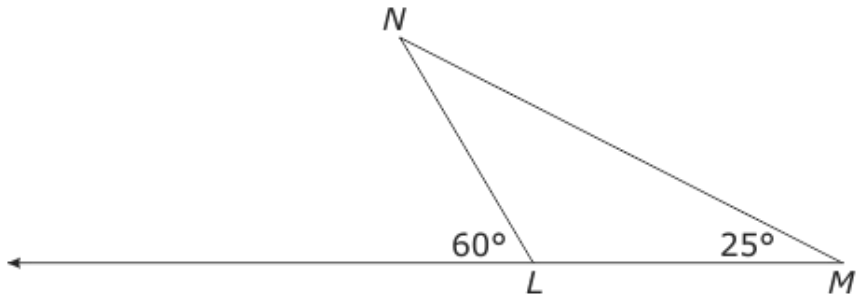
A. 60°

B. 65°

C. 70°

D. 85°

169. Triangle *LMN* is shown below.



What is the measure of ∠*MNL*?

A. 30°

B. 35°

C. 45°

D. 60°

170. A triangle has vertices at *R*(⁻5, 2), *S*(⁻4, 4), and *T*(⁻3, 2). The triangle will be reflected across the *y*-axis. What will be the coordinates of *T*′?

A. (⁻3, ⁻2)

B. (⁻2, ⁻3)

C. (2, 3)

D. (3, 2)

171. Triangle *XYZ* has vertices at the coordinates *X*(1, 1), Y(1, 4), and *Z*(2, 4). Triangle *XYZ* will be reflected over the *x*-axis. What are the coordinates of the image triangle?

A. *X*′(1, ⁻1), *Y*′(1, ⁻4), and *Z*′(2, ⁻4)

B. *X*′(⁻1, ⁻1), *Y*′(⁻1, ⁻4), and *Z*′(⁻2, ⁻4)

C. *X*′(⁻1, 1), *Y*′(⁻1, 4), and *Z*′(⁻2, 4)

D. *X*′(⁻1, 1), *Y*′(⁻4, 1), and *Z*′(⁻4 ,2)

172. A standard NCAA basketball has a radius of 4.78 inches. If Janice's air tank holds about 4,600 $in.^3$ of air, how many basketballs can she inflate with it?

A. 8

B. 9

C. 10

D. 11

173. The radius of a volleyball is 8.5 inches. What is the ***approximate*** volume of the volleyball?

A. 36 $in.^3$

B. 303 $in.^3$

C. 1,447 $in.^3$

D. 2,572 $in.^3$

174. A sphere-shaped tank that is used to store liquid has a diameter of 30 feet. ***Approximately*** how much liquid will the storage tank hold?

A. 113,097 ft^3

B. 14,137 ft^3

C. 4,189 ft^3

D. 942 ft^3

175. What is the ***approximate*** distance between points $T(^-2, ^-2)$ and $W(^-8, ^-6)$?

A. 4.5 units

B. 7.2 units

C. 26.0 units

D. 52.0 units

176. Road construction crews have to fill traffic cones with sand in order to keep them in place on the road. If the average traffic cone is 12 inches in diameter and 36 inches tall, ***about*** how much sand can be put inside the cone?

A. 223 $in.^3$

B. 452 $in.^3$

C. 1,357 $in.^3$

D. 5,429 $in.^3$

177. A cone-shaped cup at a water cooler has a radius of 6 cm and a height of 12 cm. What is the ***approximate*** volume of water the cup can hold?

A. 151 cm^3

B. 452 cm^3

C. 679 cm^3

D. 905 cm^3

178. A cone has a diameter of 12 inches and a height of 15 inches. What is the ***approximate*** volume of the cone?

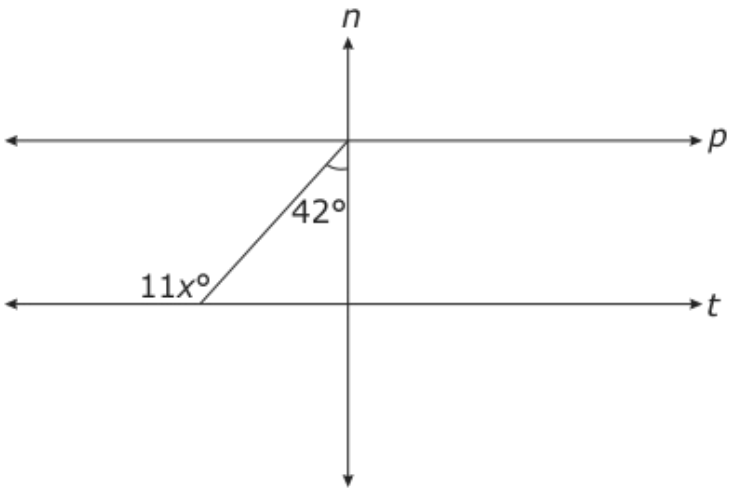
A. 566 $in.^3$

B. 848 $in.^3$

C. 2,262 $in.^3$

D. 2,827 $in.^3$

179. In the figure below, line *n* is perpendicular to line *p*. Lines *p* and *t* are parallel.



What is the value of *x*?

A. 8

B. 12

C. 13

D. 16

180. A cone has a height of 7 inches and a diameter of 6 inches. What is the ***approximate*** volume of the cone?

A. 21 in.^{3}

B. 44 in.^{3}

C. 66 in.^{3}

D. 264 in.^{3}

181. The base of a road construction cone has a diameter of 20 inches. The cone is 36 inches tall. Filling the cone with concrete will help keep the cone in position. ***Approximately*** how much concrete can the cone hold?

A. $3{,}770 \text{ in.}^3$

B. $1{,}200 \text{ in.}^3$

C. 754 in.^3

D. 377 in.^3

182. Right triangle *RST* has vertices located at *R*(1, 4), *S*(1, 7), and *T*(5, 4). What is the length of line segment *ST*?

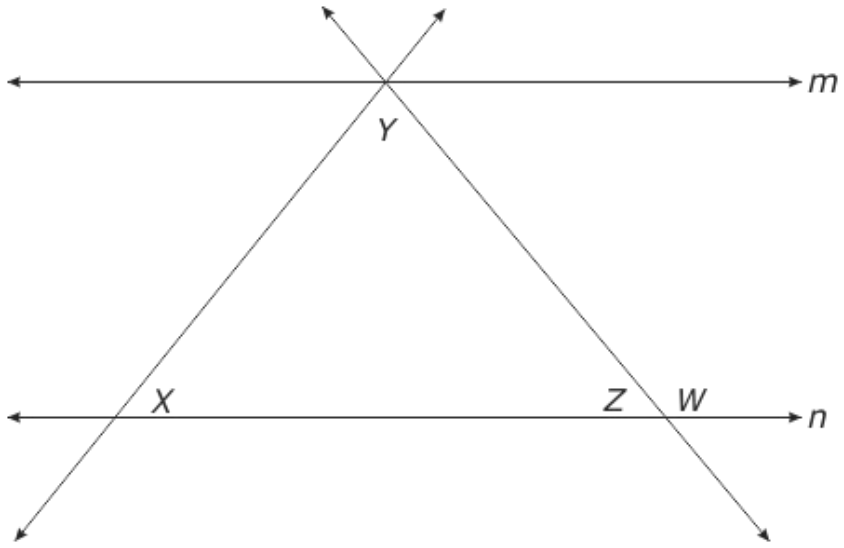
A. 3 units

B. 4 units

C. 5 units

D. 7 units

183. Lines m and n are parallel. The measure of $\angle X$ is 51° and the measure of $\angle Y$ is 79°.



What is the measure of $\angle W$?

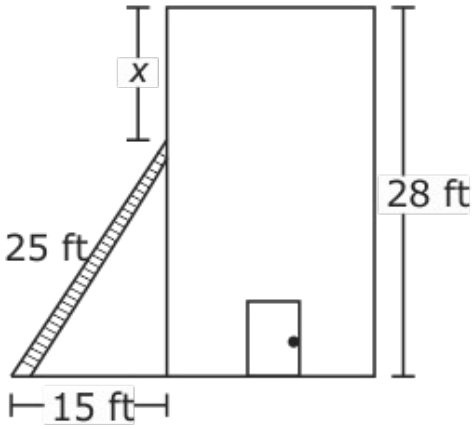
A. 101°

B. 120°

C. 129°

D. 130°

184. A 25-foot ladder is placed against a building that is 28 feet tall. The bottom of the ladder is 15 feet away from the base of the building.



How far from the top of the building (x) is the top of the ladder?

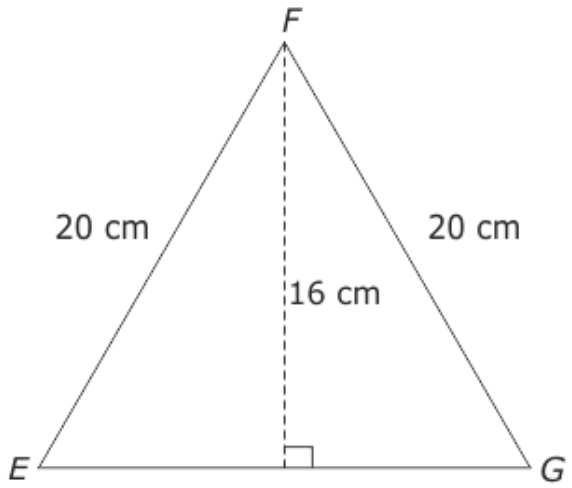
A. 20 feet

B. 13 feet

C. 8 feet

D. 3 feet

185. $\triangle EFG$ is shown below.



What is the area of triangle *EFG*?

A. 160 cm^2

B. 192 cm^2

C. 320 cm^2

D. 384 cm^2

186. The city is purchasing a new water tower in the shape of a cylinder. They are trying to decide which one will best meet their needs.

- Water tower A has a diameter of 16 feet and a height of 23 feet.
- Water tower B has the same height, but it has a diameter of 18 feet.

About how much more water does the larger tower hold?

A. 391 cubic feet

B. 923 cubic feet

C. 1,228 cubic feet

D. 4,915 cubic feet

187. A triangle has vertices at (⁻3, ⁻2), (⁻1, 3), and (2, 1). The triangle will be translated 4 units right and 2 units up. What will be the coordinates of the vertices of the image triangle?

A. (⁻7, 0), (⁻5, 5), (⁻2, 3)

B. (⁻3, 0), (⁻1, 5), (2, 3)

C. (1,⁻2), (3, 3), (6, 1)

D. (1, 0), (3, 5), (6, 3)

188. The vertices of triangle *XYZ* are located at *X*(5, ⁻1), *Y*(5, ⁻6), and *Z*(1, ⁻6). The triangle will be reflected across the *y*-axis. What will be the coordinates of the vertices of the image triangle?

A. *X*′(⁻5, ⁻1), *Y*′(⁻5, ⁻6), *Z*′(⁻1, ⁻6)

B. *X*′(⁻5, 1), *Y*′(⁻5, 6), *Z*′(⁻1, 6)

C. *X*′(5, 1), *Y*′(5, 6), *Z*′(1, 6)

D. *X*′(⁻1, 5), *Y*′(⁻6, 5), *Z*′(⁻6, 1)

189. What is the distance between the points (⁻3, ⁻4) and (5, 2)?

A. 6 units

B. 8 units

C. 10 units

D. 14 units

190. The circumferences of four balls are listed in the table below.

Ball	**Circumference** (cm)
1	12
2	24
3	76
4	576

Which ball has an ***approximate*** volume of 7,420 cm^3?

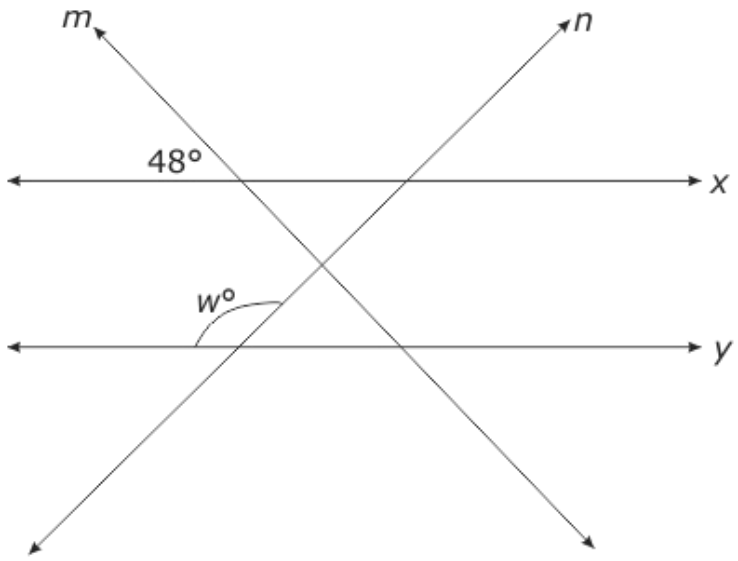
A. Ball 1

B. Ball 2

C. Ball 3

D. Ball 4

191. In the figure below, lines *x* and *y* are parallel. Lines *m* and *n* are perpendicular.



What is the measure of $\angle w$?

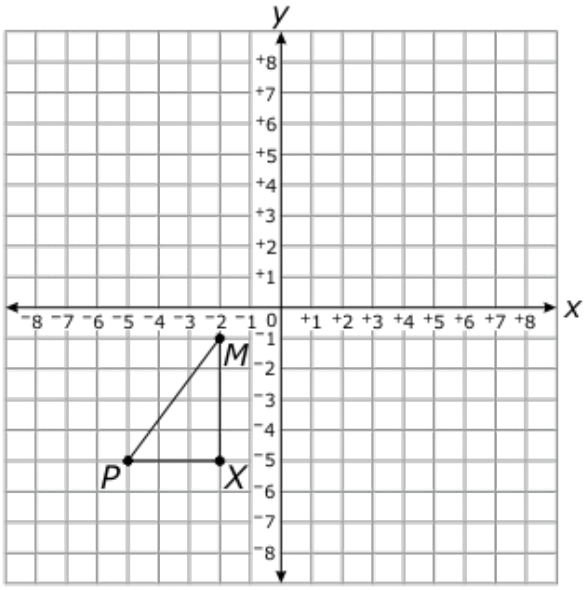
A. 42°

B. 48°

C. 132°

D. 138°

192. Triangle *MXP* is graphed below.



If triangle *MXP* is transformed to points *M*′(1, ⁻2), *X*′(5, ⁻2), and *P*′(5, ⁻5), what type of transformation occurred?

A. reflection over the *x*-axis

B. reflection over the *y*-axis

C. rotation

D. translation

193. Triangle *PQR* has vertices at *P*(⁻5, 2), *Q*(⁻4, 5), and *R*(⁻3, 2). The triangle will be translated 6 units to the right and 5 units down. What will be the coordinates of *Q*′?

A. (0, 2)

B. (2, 0)

C. (1, ⁻1)

D. (⁻10, 10)

194. The vertices of quadrilateral *EFGH* are *E*(0, 0), *F*(0, 4), *G*(4, 4), and *H*(4, 0). The quadrilateral will be rotated clockwise 180 degrees about the origin. What will be the coordinates of the image point *G*'?

A. $(^{-}4, 0)$

B. $(^{-}4, ^{-}4)$

C. $(0, ^{-}4)$

D. $(4, ^{-}4)$

195. A spherical model of the earth has a diameter of 18 in. What is the ***approximate*** volume of the model?

A. 340 $in.^3$

B. 1,020 $in.^3$

C. 3,050 $in.^3$

D. 4,575 $in.^3$

196. A can of paint is shaped like a cylinder. The can has a height of 10 inches and a diameter of 8 inches. What is the ***approximate*** volume of the paint can?

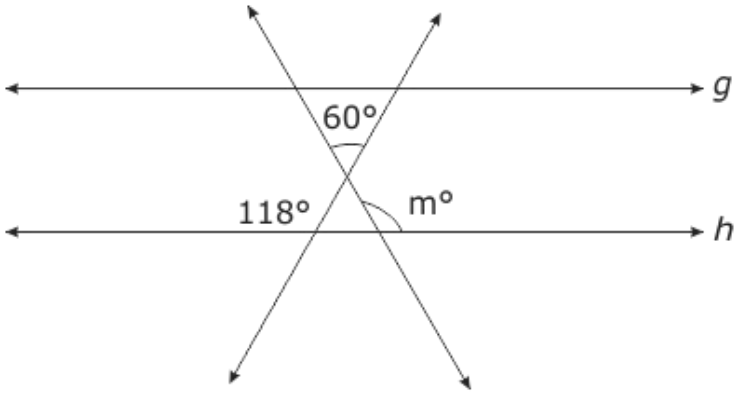
A. 130 cubic inches

B. 250 cubic inches

C. 500 cubic inches

D. 2,000 cubic inches

197. Line g is parallel to line h.



What is the measure of $\angle m$?

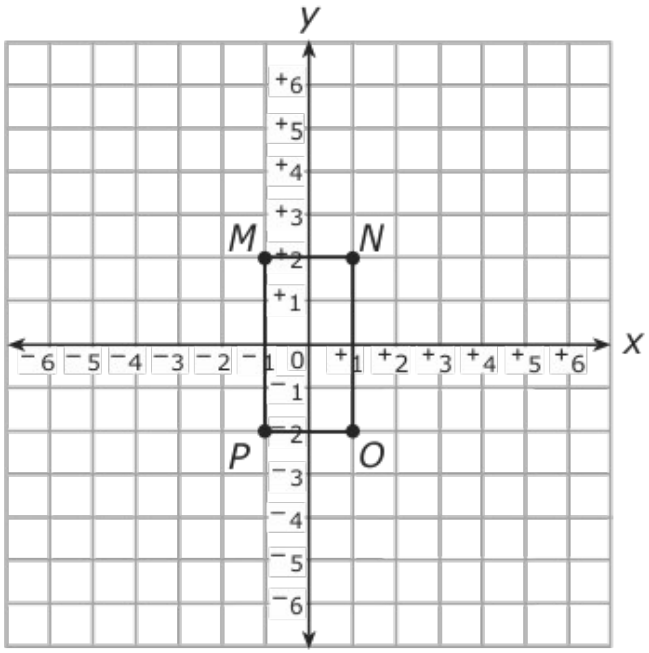
A. 118°

B. 120°

C. 122°

D. 124°

198. How does the area of the image change when dilated with a scale factor of 2?



A. The area of the new image is two times as much as the area of the original image.

B. The area of the new image is one-half as much as the area of the original image.

C. The area of the new image is four times as much as the area of the original image.

D. The area of the new image is one-fourth as much as the area of the original image.

199. Triangle *RST* has vertices *R*(2, 6), *S*(2, ⁻1), and *T*(8, 6). After a dilation is applied, the image triangle *R'S'T'* has vertices *R'*(12, 36), *S'*(12, ⁻6), and *T'*(48, 36). What is the scale factor for the dilation?

A. 12

B. 10

C. 8

D. 6

200. A sail on a boat is in the shape of a right triangle. The longest side of the sail measures 10 yards. Another side of the sail measures 8 yards. What is the length of the third side of the sail?

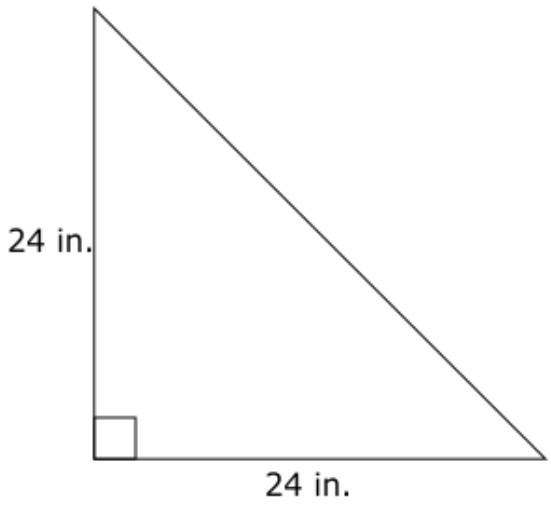
A. 12 yards

B. 9 yards

C. 6 yards

D. 4 yards

201. What is the ***approximate*** perimeter of the triangle below?



A. 72 in.

B. 82 in.

C. 288 in.

D. 576 in.

202. A line segment has endpoints located at ($^{-}$6, 7) and (9, $^{-}$4). What is the ***approximate*** length of the line segment?

A. 4.2 units

B. 10.2 units

C. 15.3 units

D. 18.6 units

203. A diameter of a circle extends from the point (4, $^{-}$5) to the point (9, 0). What is the ***approximate*** length of the radius of the circle?

A. 3.54 units

B. 5.00 units

C. 7.07 units

D. 14.14 units

204. The diameter of a circle has endpoints (1, 1) and (7, 7). What is the ***approximate*** area of the circle?

A. 26.7 units^2

B. 56.5 units^2

C. 113.0 units^2

D. 226.9 units^2

205. What is the ***approximate*** perimeter of a triangle with vertices (3, 1), (3, 8), and (6, 1)?

A. 10.0 units

B. 16.3 units

C. 17.6 units

D. 20.0 units

206. What is the perimeter of a triangle with vertices (2, 4), ($^{-}$1, 4), and ($^{-}$1, 0)?

A. 12.0 units

B. 11.1 units

C. 9.6 units

D. 6.0 units

207. A line segment has endpoints (17, 6) and (10, 9). What is the ***approximate*** length of the line segment?

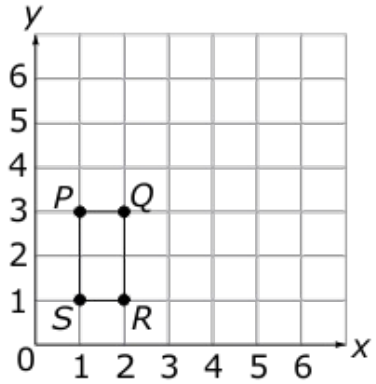
A. 6.3 units

B. 7.6 units

C. 22.4 units

D. 58.0 units

208. Rectangle *PQRS* will be translated 3 units to the right and up 2 units.



What will be the coordinates of the image point *P'*?

A. (3, 6)

B. (4, 5)

C. (5, 4)

D. (5, 5)