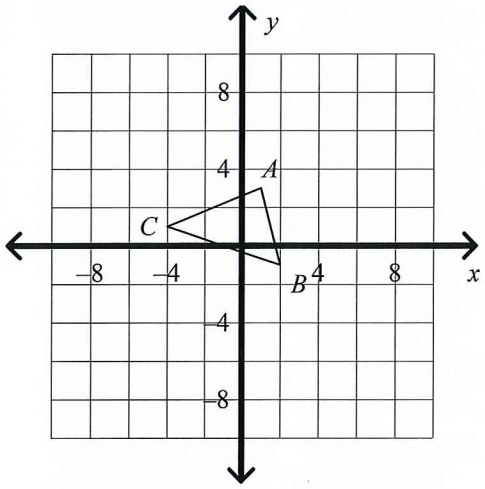
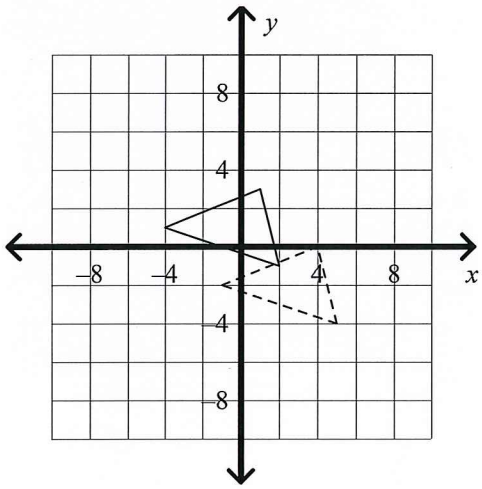
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Geometry C Final Exam Review 2016-17

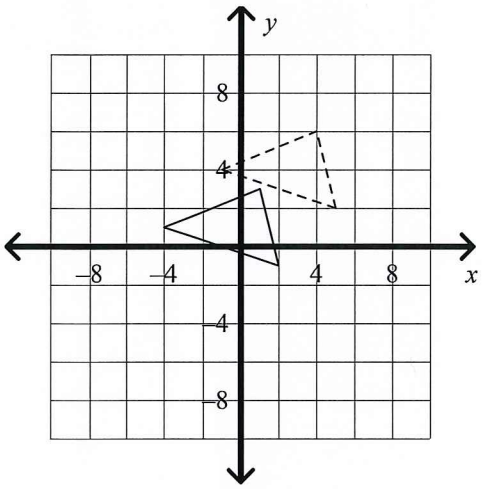
____ 1. Which graph shows $T_{<-3,3>}(\triangle ABC)$?



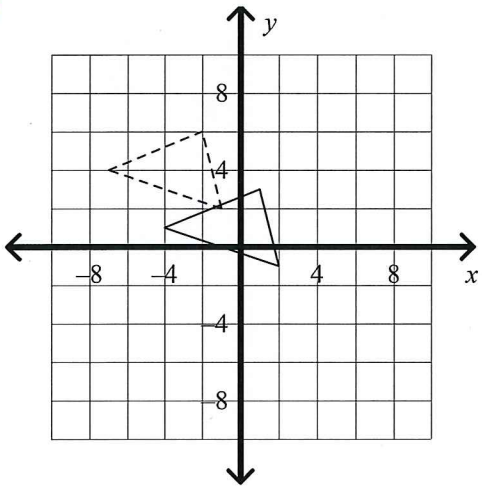
A.



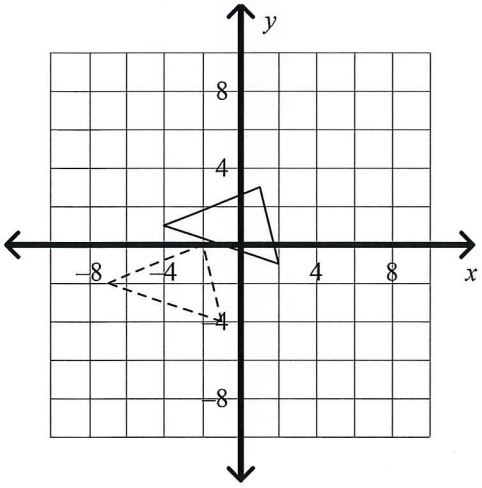
C.



B.

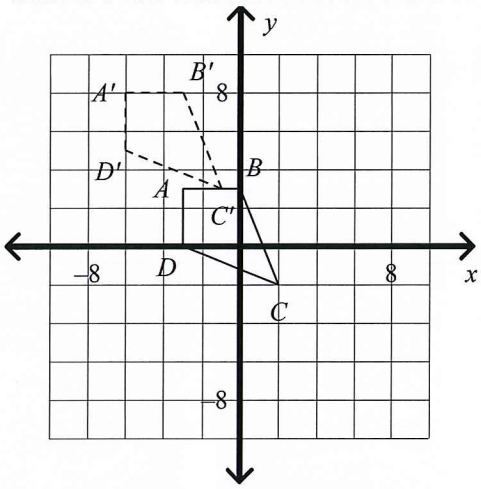


D.



Name: _____ **ID: A**

____ 2. What is a rule that describes the translation $ABCD \rightarrow A'B'C'D'$?



A. $T_{<3,5>}(ABCD)$
B. $T_{<3,-5>}(ABCD)$
C. $T_{<5,-3>}(ABCD)$
D. $T_{<-3,5>}(ABCD)$

____ 3. The vertices of a triangle are $P(5, 2)$, $Q(-4, 6)$, and $R(-7, 3)$. Name the vertices of $R_{y=x}(\Delta PQR)$.

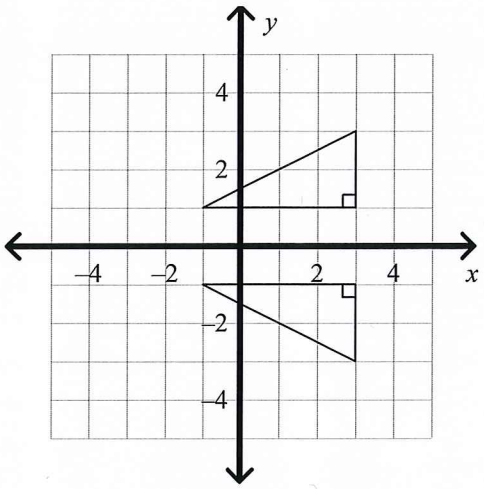
A. $P'(2, 5), Q'(6, -4), R'(3, -7)$
B. $P'(-2, -5), Q'(-6, 4), R'(-3, 7)$
C. $P'(2, -5), Q'(6, 4), R'(3, 7)$
D. $P'(-2, 5), Q'(-6, -4), R'(-3, -7)$

$(x,y) \rightarrow (y,x)$

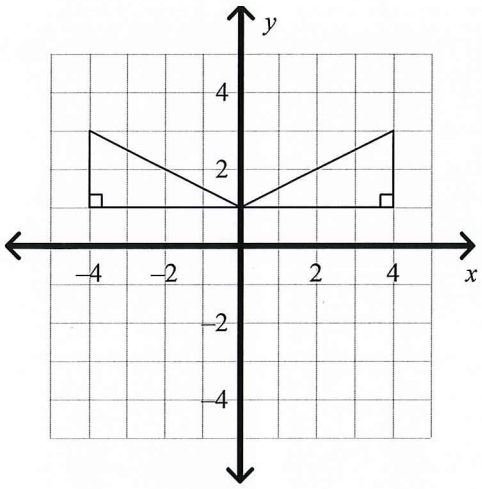
Name: _____ **ID: A**

____ 4. Which graph shows a triangle and its reflection image over the *x*-axis?

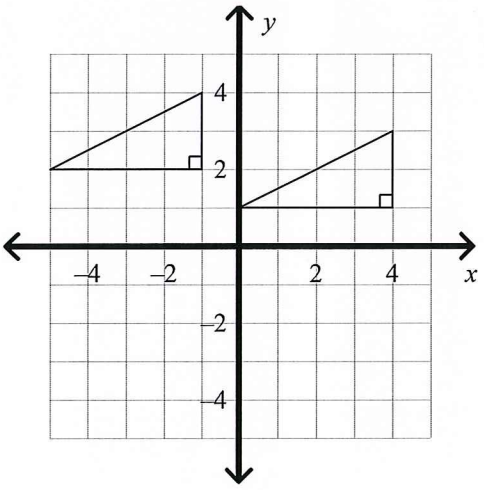
A.



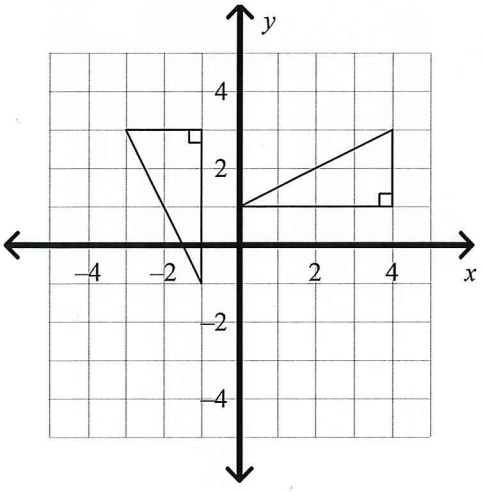
C.



B.



D.



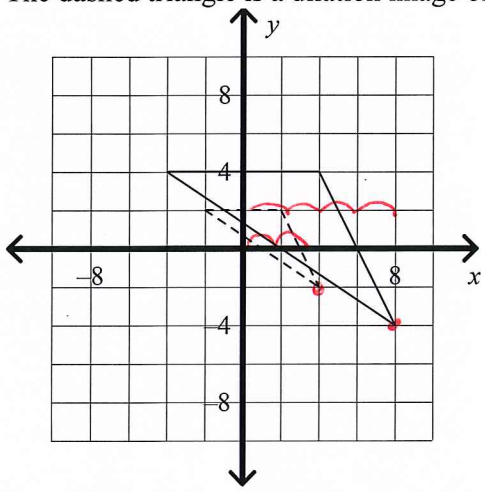
____ 5. A carnival ride is drawn on a coordinate plane so that the first car is located at the point (60,0). What are the coordinates of the first car after a rotation of 270° about the origin?

$(x,y) \rightarrow (y,-x)$

A. (0,−60) B. (−30,−30) C. (0,60) D. (−60,0)

Name: _____ **ID: A**

____ 6. The dashed triangle is a dilation image of the solid triangle. What is the scale factor?

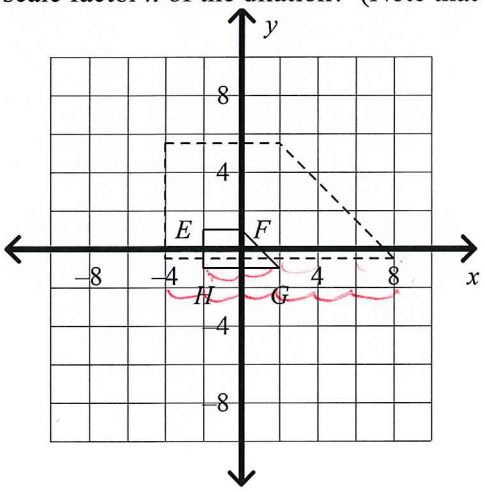


X = 8 pre-image
X = 4 image

8K = 4
K = 4/8 = 1/2

A. $\frac{2}{3}$ B. 2 C. $\frac{1}{2}$ D. $\frac{1}{4}$

____ 7. The dashed-lined figure is a dilation image of *EFGH*. Is $D_{(k,H)}$ an enlargement or a reduction? What is the scale factor *n* of the dilation? (Note that the axes are labeled by 2's)



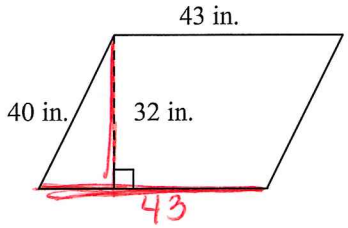
4
12

4K = 12
K = 3

A. $k = 3$; reduction
B. $k = 6$; enlargement
C. $k = 3$; enlargement
D. $k = \frac{1}{3}$; reduction

Find the area. The figure is not drawn to scale.

____ 8.

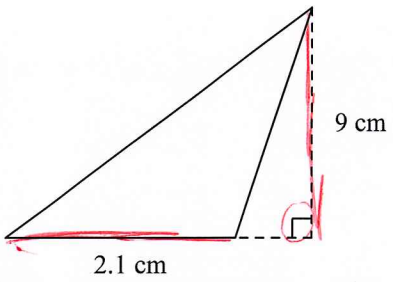


A = bh
= 43 (32)
= 1376

A. 1376 in.^{2} B. 1720 in.^{2} C. 150 in.^{2} D. 75 in.^{2}

Name: _____ **ID: A**

____ 9.



$A = \frac{bh}{2}$

$= \frac{2.1(9)}{2}$

$= 9.45$

A. 9.45 cm² B. 11.1 cm² C. 37.8 cm² D. 18.9 cm²

____ 10. The area of a parallelogram is 150 cm² and the height is 25 cm. Find the base.

A. 175 cm B. 125 cm C. 3,750 cm² D. 6 cm

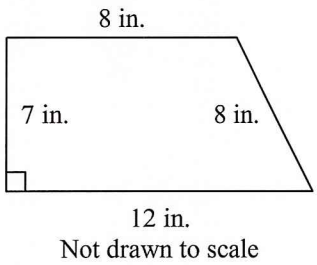
$A = bh$

$150 = b(25)$

$b = 6$

Find the area of the trapezoid.

____ 11.



Not drawn to scale

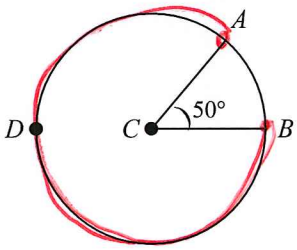
$A = \frac{h(b_1+b_2)}{2}$

$= \frac{7(8+12)}{2}$

$= \frac{7(20)}{2}$

A. 80 in.² B. 77.2 in.² C. 70 in.² D. 75 in.²

____ 12. Name the major arc and find its measure.

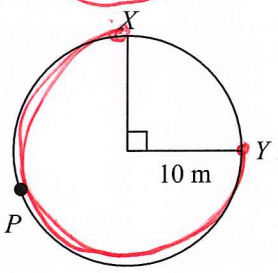


$\overset{\frown}{BDA} = 360 - 50 = 310$

A. $\overset{\frown}{BDA}$; 50 B. $\overset{\frown}{AB}$; 310 C. $\overset{\frown}{BDA}$; 310 D. $\overset{\frown}{AB}$; 50

Name: _____ **ID: A**

____ 13. Find the length of $\overset{\frown}{YPX}$.

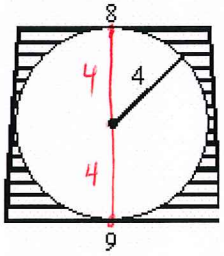


$l = \frac{x\pi d}{360}$

$= \frac{270\pi(20)}{360}$

A. 47.1 m B. 15.7 m C. 94.2 m D. 2827.4 m

____ 14. Find the area of the shaded portion of the figure. Dimensions are in feet. The figure is not drawn to scale.



$A = \frac{h(b_1+b_2)}{2}$

$= \frac{8(8+9)}{2}$

$= \frac{8(17)}{2}$

$= 68$

$A = \pi r^2$

$= \pi 4^2$

$= 50.27$

$68 - 50.27 = 17.73$

A. 21.7 ft^2 B. 17.7 ft^2 C. 42.9 ft^2 D. none of these

____ 15. Find the area of a sector with a central angle of 190° and a diameter of 5.8 cm. Round to the nearest tenth.

A. 55.8 cm^2 B. 13.9 cm^2 C. 2.4 cm^2 D. 6.1 cm^2

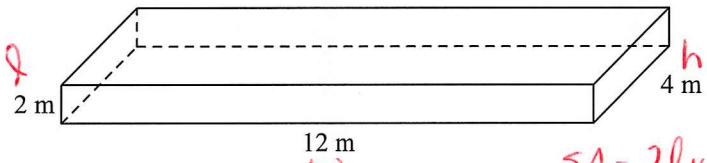
$A = \frac{x\pi r^2}{360}$

$= \frac{190\pi 2.9^2}{360}$

$= 13.9$

Use formulas to find the surface area of the given prism. Round your answer to the nearest whole number.

____ 16.



Not drawn to scale

$SA = 2lw + 2lh + 2wh$

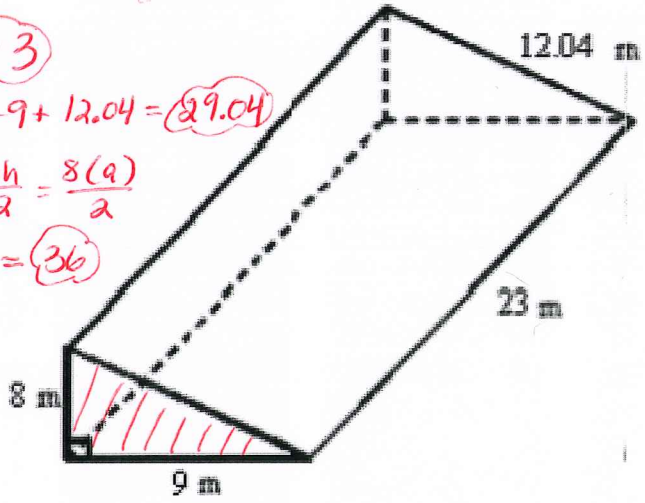
$= 2(2)(12) + 2(2)(4) + 2(12)(4)$

A. 160 m^2 C. 64 m^2

B. 112 m^2 D. 144 m^2

Name: _____ **ID: A**

____ 17. 17. Find the total surface area of the triangular prism.



Not drawn to scale

$h = 23$

$P = 8 + 9 + 12.04 = 29.04$

$B = \frac{bh}{2} = \frac{8(9)}{2} = 36$

$SA = hp + 2B$

$= 23(29.04) + 2(36)$

$= 739.9$

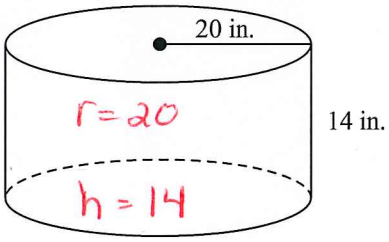
A. 771 m^2

C. 828 m^2

B. 667.9 m^2

D. 739.9 m^2

____ 18. Find the surface area of the cylinder to the nearest whole number.



$r = 20$

$h = 14$

Not drawn to scale

$SA = 2\pi r^2 + 2\pi rh$

$= 2\pi(20^2) + 2\pi(20)(14)$

$= 4273$

A. 15579 $in.^2$ B. 1759 $in.^2$ C. 5777 $in.^2$ D. 4273 $in.^2$

____ 19. Allison is planning to cover the **lateral area** of a large cylindrical garbage can with decorative fabric for a theme party. The can has a diameter of 3 feet and a height of 3.5 feet. How much fabric does she need? Round to the nearest square foot.

A. 66 ft^2 B. 61 ft^2 C. 33 ft^2 D. 123 ft^2

$SA = 2\pi r^2 + 2\pi rh$

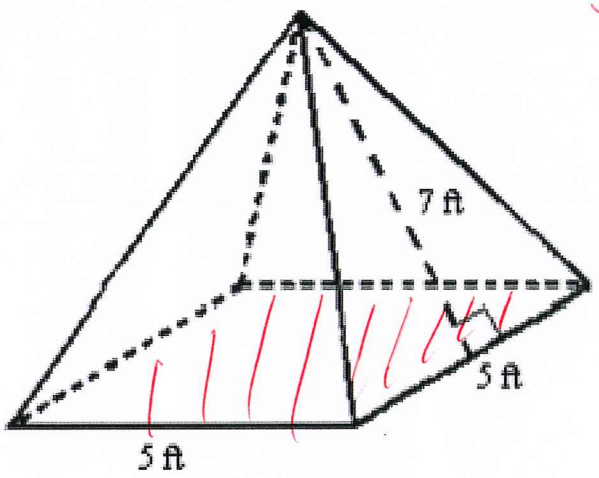
$2\pi(1.5)(3.5)$

$= 32.99$

Name: _____ ID: A

Find the surface area of the regular pyramid shown to the nearest whole number.

____ 20.



Not drawn to scale

$SA = .5lp + B$

$= .5(7)(20) + 25$

$= 95$

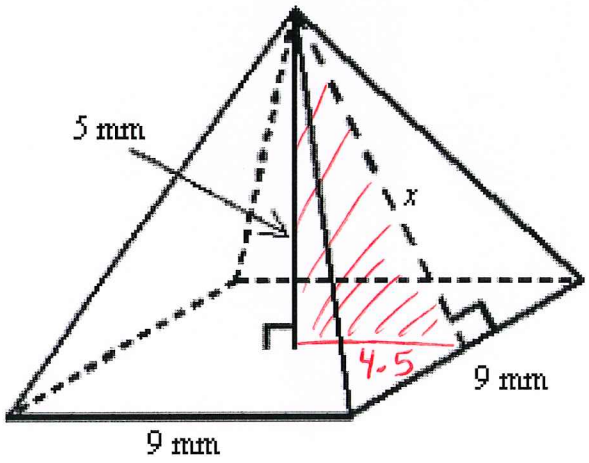
$l = 7$

$P = 4(5) = 20$

$B = 5^2 = 25$

A. 115 ft^2 B. 58.3 ft^2 C. 175 ft^2 D. 95 ft^2

____ 21. Find the slant height x of the pyramid shown, to the nearest tenth.



Not drawn to scale

$4.5^2 + 5^2 = x^2$

$20.25 + 25 = x^2$

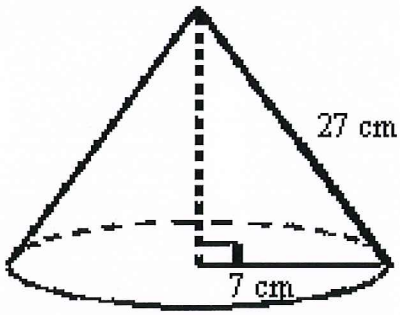
$\sqrt{45.25} = \sqrt{x^2}$

$x = 6.7$

A. 6.7 mm B. 7.8 mm C. 8.9 mm D. 3.7 mm

Name: _____ **ID: A**

____ 22. Find the surface area of the cone to the nearest tenth.



Not drawn to scale

$SA = \pi r^2 + \pi r l$ $\quad l = 27$

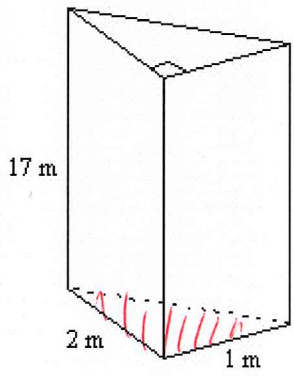
$= \pi 7^2 + \pi(7)(27)$ $\quad r = 7$

$= \boxed{747.7}$

A. 622 cm^2 B. 51 cm^2 C. 1385 cm^2 (D.) 747.7 cm^2

Find the volume of the given prism. Round to the nearest tenth if necessary.

____ 23.



$V = Bh$ $\quad h = (17)$

$= 1(17)$ $\quad B = \frac{bh}{2} = \frac{2(1)}{2} = (1)$

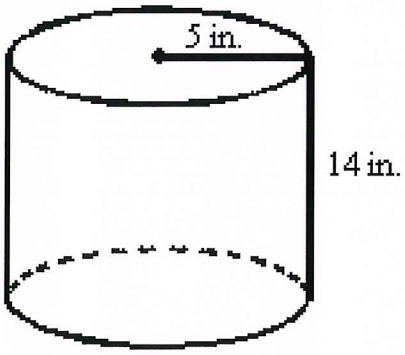
$= \boxed{17}$

(A.) 17 m^3 B. 1 m^3 C. 8.5 m^3 D. 34 m^3

Name: _____ ID: A

Find the volume of the cylinder.

____ 24.



Not drawn to scale

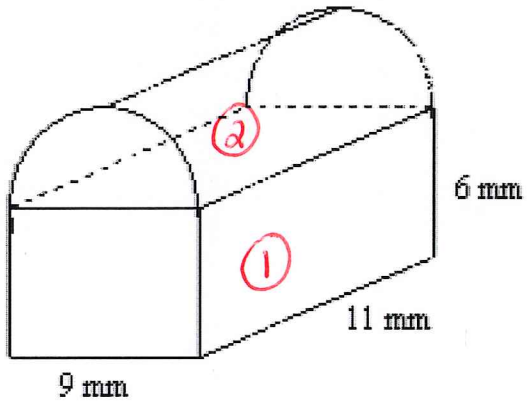
$V = \pi r^2 h$ $h = 14$

$= \pi 5^2 (14)$ $r = 5$

$= 1099.6$

(A.) 1099.6 in.^{3} B. 219.9 in.^{3} C. 1627.3 in.^{3} D. 791.7 in.^{3}

____ 25. Find the volume of the composite space figure to the nearest whole number.



Not drawn to scale

① $V = lwh$

$= 9(11)6$

$= 594$

② $V = \frac{\pi r^2 h}{2}$

$= \frac{\pi (4.5)^2 11}{2}$

$= 349.89$

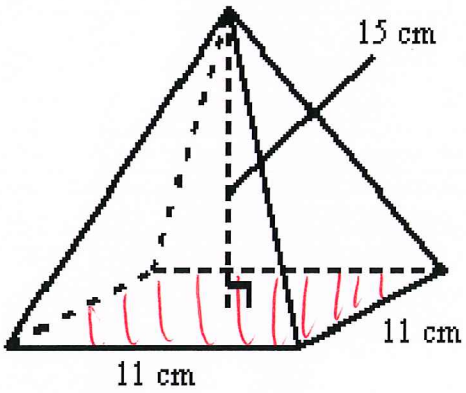
$594 + 349.89 = 943.89$

A. 1293.8 mm^3 B. 699.8 mm^3 (C.) 944 mm^3 D. 591 mm^3

Name: _____ ID: A

Find the volume of the square pyramid shown. Round to the nearest tenth if necessary.

____ 26.



Not drawn to scale

$V = \frac{Bh}{3}$ $h = 15$

$B = 11^2 = 121$

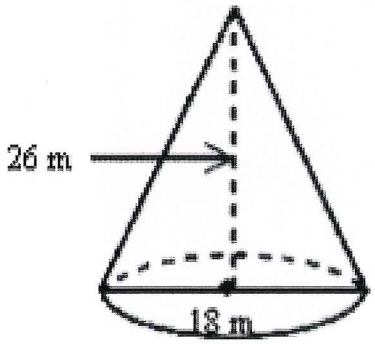
$= \frac{121(15)}{3}$

$= 605$

A. 1815 cm^3 B. 605 cm^3 C. 660 cm^3 D. 220 cm^3

Find the volume of the right cone shown as a decimal rounded to the nearest tenth.

____ 27.



Not drawn to scale

$V = \frac{\pi r^2 h}{3}$ $r = 9$

$h = 26$

$= \frac{\pi 9^2 (26)}{3}$

$= 2205.4$

A. 156 m^3 B. 2205.4 m^3 C. 2808 m^3 D. 8424 m^3

Find the surface area of the sphere with the given dimension.

____ 28. radius of 20 m

A. 628 m^2 B. 5026.5 m^2 C. 1256 m^2 D. 2513.3 m^2

$SA = 4\pi r^2$

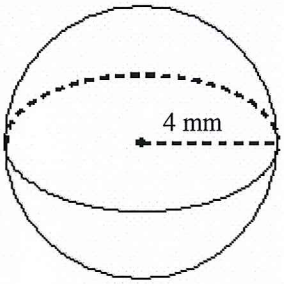
$= 4\pi(20^2)$

$= 5026.5$

Name: _____ ID: A

Find the volume of the sphere shown. Give each answer rounded to the nearest cubic unit.

____ 29.



$V = \frac{4\pi r^3}{3}$

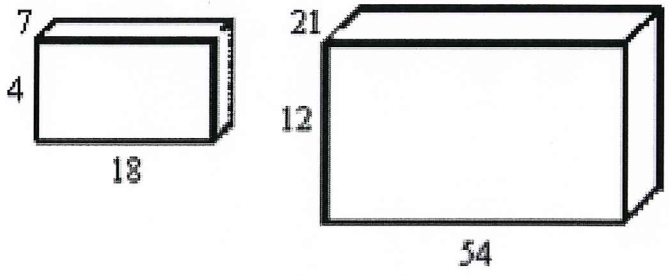
$= \frac{4\pi 4^3}{3}$

$= 268$

A. 67 mm^3 B. 134 mm^3 C. 268 mm^3 D. 201 mm^3

Are the two figures similar? If so, give the scale factor of the smaller figure to the larger figure.

____ 30.



Not drawn to scale

$\frac{7}{21}$ $\frac{4}{12}$ $\frac{18}{54}$

$\downarrow$ $\downarrow$ $\downarrow$

$\frac{1}{3}$ $\frac{1}{3}$ $\frac{1}{3}$

A. yes; $\frac{1}{3}$ B. yes; $\frac{1}{2}$ C. yes; $\frac{1}{5}$ D. no

____ 31. Find the scale factor of a prism with the surface area of 100 ft^2 to a similar prism with the surface area of 361 ft^2.

A. 10 : 19 B. 6859 : 1000 C. 19 : 10 D. 1000 : 6859

$100/361 \rightarrow 100/361$ $a^2 : b^2$ $100 : 361$

$a : b$ $10 : 19$

Name: _____ **ID: A**

____ 32. If the scale factor of two similar solids is 4 : 13, what is the ratio of their corresponding areas? What is the ratio of their corresponding volumes?

A. The ratio of their corresponding areas is 4 : 169.
The ratio of their corresponding volumes is 4 : 2197.

B. The ratio of their corresponding areas is 64 : 2197.
The ratio of their corresponding volumes is 16 : 169.

C. The ratio of their corresponding areas is 8 : 26.
The ratio of their corresponding volumes is 12 : 39.

D. The ratio of their corresponding areas is 16 : 169.
The ratio of their corresponding volumes is 64 : 2197.

$a:b \quad 4:13$

$a^2:b^2 \quad 16:169$

$a^3:b^3 \quad 64:2197$

____ 33. The surface area of Solid A is 675 m^2 and the surface area of Solid B is 432 m^2. If the volume of Solid B is 960 m^3, find the volume of Solid A.

A. 1500 yd^3 B. 1875 yd^3 C. 1200 yd^3 D. 1000 yd^3

$675/432 \rightarrow 25/16$

$a^2:b^2 \rightarrow 25:16$

$a:b \rightarrow 5:4$

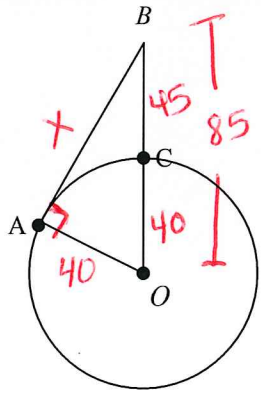
$a^3:b^3 \rightarrow 125:64$

$\frac{125}{64} = \frac{x}{960}$

$64x = 120000$

$x = 1875$

____ 34. $\overline{AB}$ is tangent to $\odot O$. If $AO = 40$ and $BC = 45$, what is AB?
The diagram is not to scale.



$x^2 + 40^2 = 85^2$

$x^2 + 1600 = 7225$

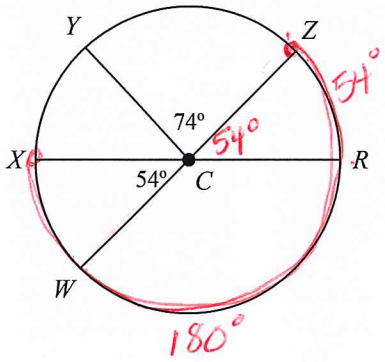
$\sqrt{x^2} = \sqrt{5625}$

$x = 75$

A. 75 B. 115 C. 90 D. 85

Name: _____ **ID: A**

____ 35. $\overline{WZ}$ and $\overline{XR}$ are diameters. Find the measure of $\overset{\frown}{ZWX}$. (The figure is not drawn to scale.)

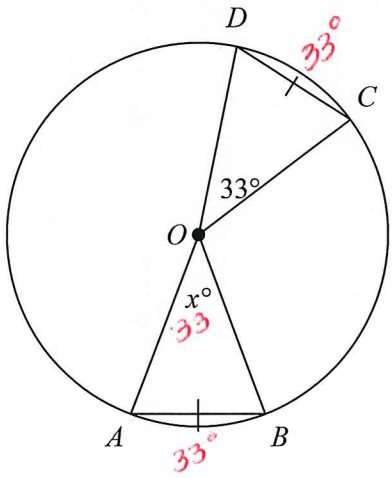


180+54 = 234

A. 52 B. 254 C. 234 D. 308

Find the value of *x*. *O* is the center of the circle.

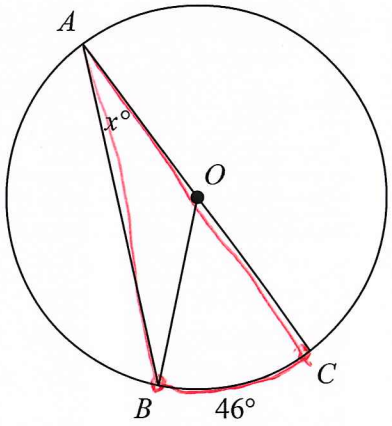
____ 36.



A. 57 B. 16.5 C. 33 D. 114

Name: _____ **ID: A**

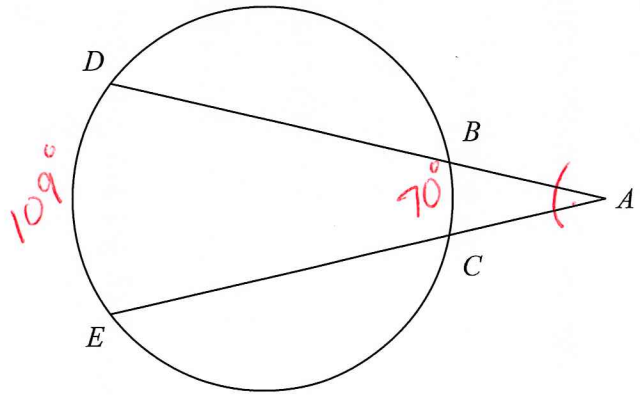
____ 37. Find x in circle O. (The figure is not drawn to scale.)



$X = 46/2$

A. 23 B. 44 C. 92 D. 46

____ 38. $\overset{\frown}{mDE} = 109$ and $\overset{\frown}{mBC} = 70$. Find $m\angle A$. (The figure is not drawn to scale.)

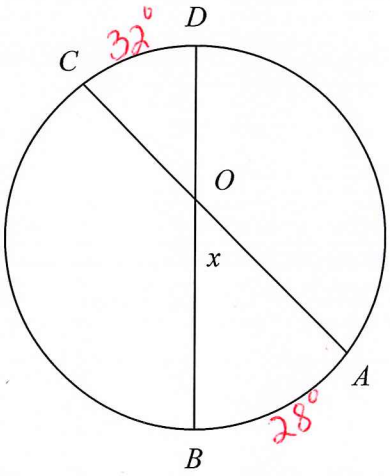


$m\angle A = \frac{109-70}{2} = \frac{39}{2}$

$= 19.5$

A. 74 B. 39 C. 19.5 D. 89.5

____ 39. Find the value of x for $m\overset{\frown}{AB} = 28$ and $m\overset{\frown}{CD} = 32$. (The figure is not drawn to scale.)



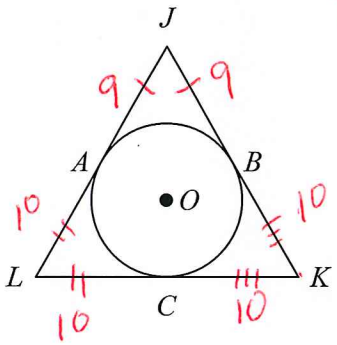
$X = \frac{32+28}{2}$

$= \frac{60}{2}$

$= 30$

A. 30 B. 4 C. 44 D. 60

____ 40. $\overline{JK}$, $\overline{KL}$, and $\overline{LJ}$ are all tangent to circle O (not drawn to scale), and $\overline{JK} \cong \overline{LJ}$. $JA = 9$, $AL = 10$. Find the perimeter of ΔJKL.



$P = 2(9) + 2(10) + 2(10)$

$= 18 + 20 + 20$

$= 58$

A. 58 B. 56 C. 38 D. 19