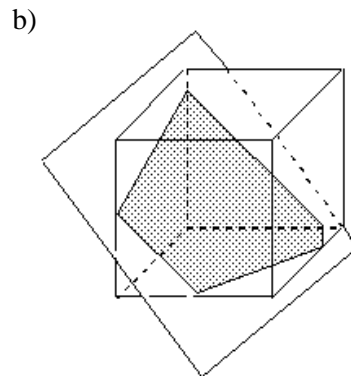
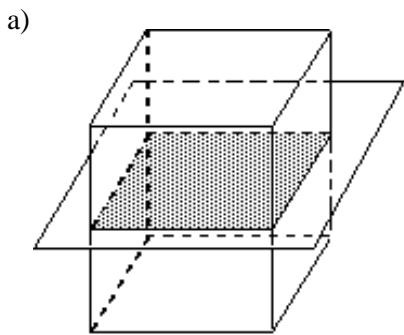


11.1-11.3 Study Guide

Short Answer

1. Mario's company makes unusually shaped imitation gemstones. One gemstone had 12 faces and 10 vertices. How many edges did the gemstone have? (hint: Euler's Formula)
2. Describe the cross sections.

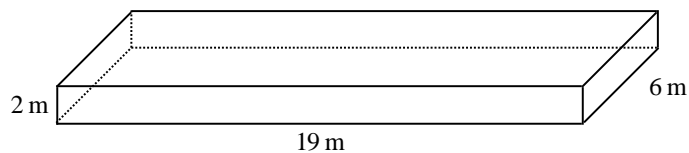


#3-5

For each prism and pyramid below:

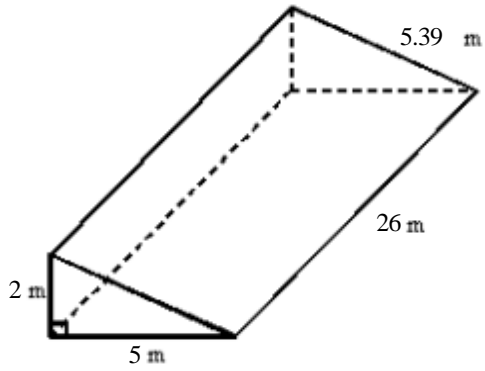
- a) list the lateral area formula
 - b) find the lateral area to the nearest whole number
 - c) list the surface area formula
 - d) find the surface area to the nearest whole number
- (hint: for the pyramid you will have to find slant height first)

3.



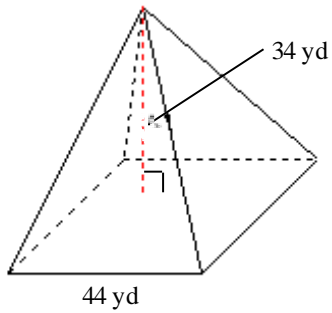
Not drawn to scale

4.



Not drawn to scale

5. Base is a square



Not drawn to scale

#6-7

For the cylinder and cone below:

a) list the lateral area formula

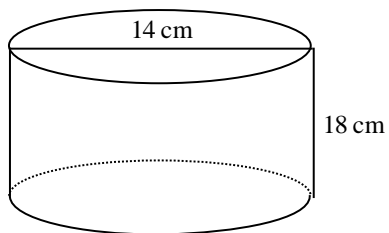
b) find the lateral in terms of π

c) list the surface area formula

d) find the surface area in terms of π

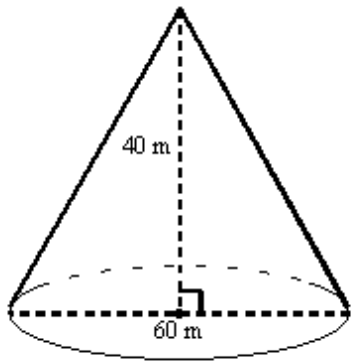
(hint: for the cone you will have to find the slant height first)

6.



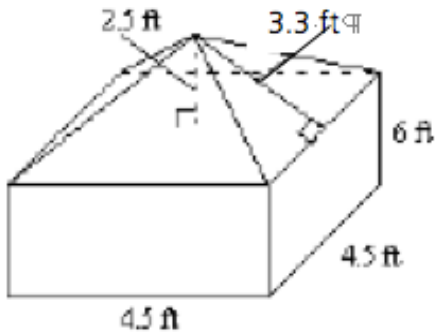
Not drawn to scale

7.



Not drawn to scale

8. Find the surface area of the figure to the nearest whole number.
(hint: find the surface area of each shape, but don't forget that they are sharing one surface that isn't part of the total shape)

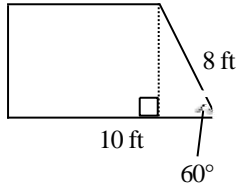


9. The lateral area of a cone is $558\pi \text{ cm}^2$. The radius is 31 cm. Find the slant height to the nearest tenth.
10. Allison is planning to cover the lateral surface of a large cylindrical garbage can with decorative fabric for a her cat's surprise birthday party. The can has a diameter of 3 feet and a height of 3.5 feet. How much fabric does she need? Round to the nearest square foot. The fabric costs \$1.22 per square foot. How much will she spend on the fabric?

#11-21 Distributive Practice – please check answer section to see where the question comes from in the book

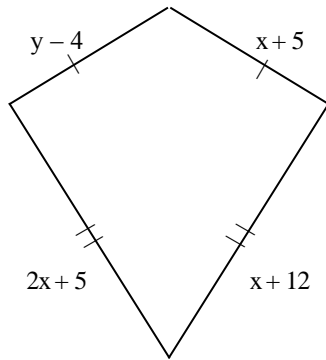
11. A forest ranger spots a fire from a 21-foot tower. The angle of depression from the tower to the fire is 17° .
- Draw a diagram to represent this situation.
 - To the nearest foot, how far is the fire from the base of the tower? Show the steps you use to find the solution.
12. pentagon with a radius of 4 m. Round to the nearest whole number.

13. A team in science class placed a chalk mark on the side of a wheel and rolled the wheel in a straight line until the chalk mark returned to the same position. The team then measured the distance the wheel had rolled and found it to be 30 cm. To the nearest tenth, what is the area of the wheel?
14. Leave answer in simplest radical form
(10ft is the length of the whole bottom base)

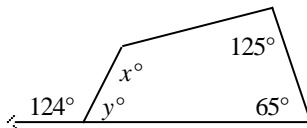


Not drawn to scale

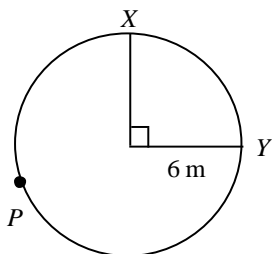
15. The area of a parallelogram is 420 cm^2 and the height is 35 cm. Find the corresponding base.
16. A triangle has side lengths of 28 in, 24 in, and 38 in. Classify it as acute, obtuse, or right.
17. The measure of two complementary angles are in the ratio 1 : 4. What are the degree measures of the two angles?
18. Find the values of the variables and the lengths of the sides of this kite.



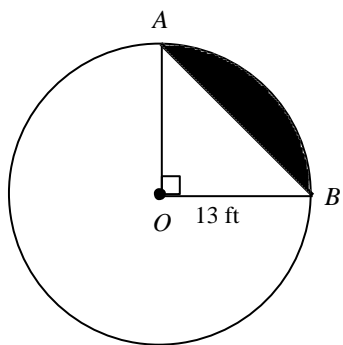
19. Find the missing values of the variables. The diagram is not to scale.



20. Find the length of \widehat{XPY} . Leave your answer in terms of π .



21. The area of sector AOB is $42.25\pi \text{ ft}^2$. Find the exact area of the shaded region.



#22-28 Algebra Review – solve each equation for the given variable

22. $16 = -d + 6$

23. $4.7x + 3.8 = 13.2$

24. $\frac{6}{7}x - 8 = 7$

25. $-6y + 14 + 4y = 32$

26. $70 = -7(-2 - 2z)$

27. $\frac{4p}{6} + 27 = 39$

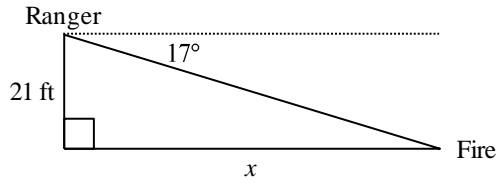
28. $-6p + 7 = 3(2p - 3) - 4(-10 + 4p)$

11.1-11.3 Study Guide Answer Section

- 20 edges
11-1.1 Recognize polyhedra and their parts
- a) square b) pentagon
11-1.2 Visualize cross sections of space figures
- $LA = ph$; 100 m^2
 $SA = 2(lw) + 2(wh) + 2(lh)$; 328 m^2
11-2.1 Find the surface area of a prism and a cylinder
- $LA =$ the sum of the area of each rectangle; 322 m^2
 $SA = LA + 2(\text{area of triangle})$; 332 m^2
11-2.1 Find the surface area of a prism and a cylinder
- $LA = p\ell$; 3564 yd^2
 $SA = 2\ell l + l^2$; 55000 yd^2
11-3.1 Find the surface area of a pyramid and a cone
- $LA = 2\pi rh$; $252 \pi \text{ cm}^2$
 $SA = 2\pi rh + 2\pi r^2$; $350 \pi \text{ cm}^2$
11-2.1 Find the surface area of a prism and a cylinder
- $LA = \pi r\ell$; $1500 \pi \text{ cm}^2$
 $SA = \pi r\ell + \pi r^2$; $2400 \pi \text{ cm}^2$
11-3.1 Find the surface area of a pyramid and a cone
- 158 ft^2
11-3.1 Find the surface area of a pyramid and a cone
- 18 cm
11-3.1 Find the surface area of a pyramid and a cone
- 33 ft^2 ; \$40.24
11-2.1 Find the surface area of a prism and a cylinder

11.

a.



b. The fire is about 69 feet from the base of the tower.

8-4.1 Use angles of elevation and depression to solve problems

12. 38 m^2

10-5.1 Find areas of regular polygons and triangles using trigonometry

13. 71.6 cm^2

10-7.1 Find the areas of circles, sectors, and segments of circles

14. $32\sqrt{3} \text{ ft}^2$

10-2.1 Find the area of a trapezoid, rhombus, or kite

15. 12 cm

10-1.1 Find the area of parallelograms and triangles

16. obtuse

8-1.1 Use the Pythagorean Theorem and its converse

17. 18° and 72°

7-1.1 Write ratios and solve proportions

18. $x = 7, y = 16; 12, 19$

6-6.1 Verify and use properties of trapezoids and kites

19. $x = 114, y = 56$

6-1.1 Find the sum of the measures of the interior angles of a polygon

20. $9\pi \text{ m}$

10-6.2 Find the circumference and arc length

21. $(42.25\pi - 84.5)\text{ft}^2$

10-7.1 Find the areas of circles, sectors, and segments of circles

#22-28 Algebra 1 Review

22. -10

27. 18

23. 2

28. $p=6$

24. $17\frac{1}{2}$

25. -9

26. 4