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Pre-Algebra B, U9,L16
March 20, 2007
Score: 100%

Name Date

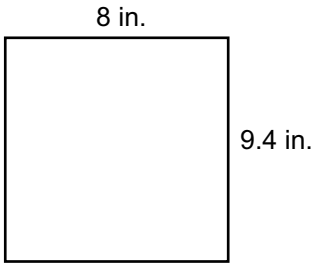
Unit Assessment

Areas and Volumes

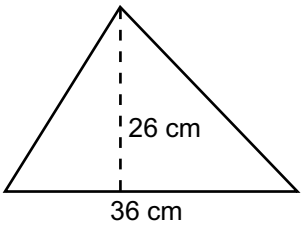
DIRECTIONS: Complete your work on a separate sheet. Write each answer in the space provided.

Find the area of the region pictured or described. Leave your answer in terms of π when applicable. For Problem 5 the figure has symmetry.

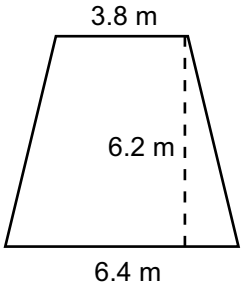
1.



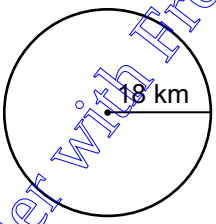
2.



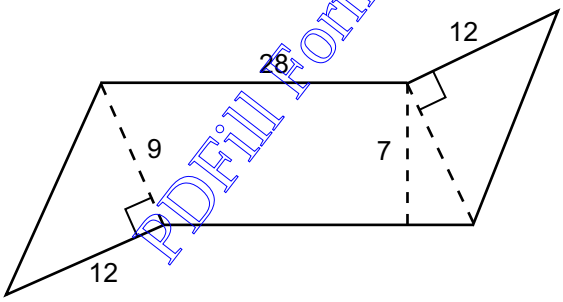
3.



4.



5.



6. Square: perimeter of 24 m

7. Parallelogram: base = 14 ft, height = 22 ft

8. Circle: circumference = 5π m

Answers

1. 75.2 sq. in.

2. 468 sq. cm

3. 31.62 sq. m.

4. 324 pi sq. km.

5. 304 sq. units

6. 36 sq. m.

7. 308 sq. ft.

8. 6.25 pi sq. m.

Unit Assessment

DIRECTIONS: Complete your work on a separate sheet. Write each answer in the space provided.

Solve. Use $\pi \approx \frac{22}{7}$. Leave each answer as a whole number or a mixed number in simplest form.

9. The area of a circle is 1386 ft^2. Find the radius.

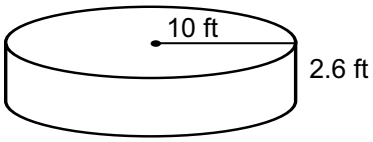
10. A trapezoid has an area of 264 ft^2 and bases 20 ft and 24 ft. Find the height.

Find the volume. Use $\pi \approx 3.14$.

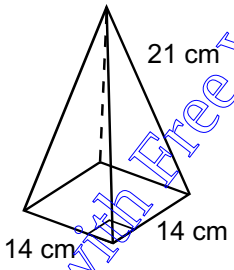
11. Prism: base area = 48.5 cm^2, height = 16 cm

12. Cone: base diameter = 5 m, height = 12 m

13.

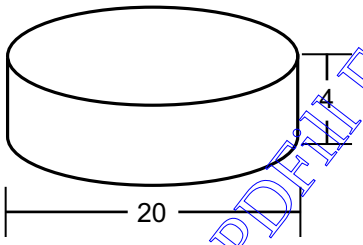


14.

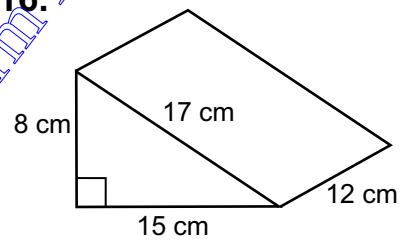


Find (a) the lateral area and (b) the total surface area of each. Use $\pi \approx 3.14$.

15.



16.



17. Find (a) the surface area and (b) the volume of a sphere with diameter 18 cm. Leave your answer in terms of π.

Answers

9. 21 ft

10. 12 ft

11. 776 cu. m.

12. 78.5 cu. m.

13. 816 cu. ft.

14. 1372 cu. cm.

15. a. 251 sq. units

b. 879 sq. units

16. a. 480 cu cm.

b. 600 cu cm

17. a. 324 pi sq cm

b. 972 pi sq. cm

Unit Assessment

Solve. When applicable, use $\pi \approx 3.14$. Show your work in the space provided. Round each answer to the nearest gram.

18. Find the mass of a block of wood in the shape of a rectangular prism that is 4 cm by 9 cm by 12 cm having density 0.85 g/cm^3.

$D = \frac{M}{V}$

$.85 = \frac{M}{4 \cdot 9 \cdot 12}$

$\left(\frac{432}{1}\right) .85 = \frac{M}{432}\left(\frac{432}{1}\right)$

367.2

367 g.

19. Find the mass of a sphere of ice with radius of 3 cm, and density of 0.92 g/cm^3.

$D = \frac{M}{V}$

$.92 = \frac{M}{\frac{4}{3}\pi r^3}$

$\left(\frac{113.04}{1}\right).92 = \frac{M}{113.04}$

104 g.