

## Chapter Five Review

- Convert the following decimals to fractions in lowest terms.
  - 27.0125
  - 6.032
  - 15.48
  - 9.7
  - 289.06
  - 14.262
- Convert the following fractions to decimals. Divide until the decimal repeats or terminates and then express your answer in exact form.
  - $\frac{5}{16}$
  - $\frac{2}{11}$
  - $\frac{7}{80}$
  - $\frac{11}{32}$
  - $\frac{15}{100}$
  - $\frac{9}{13}$
- Simplify each of the following. Express your answer in exact form.
  - $\frac{2}{3}(2.7)$
  - $\frac{3}{4}(0.06) + \frac{1}{8}(0.4)$
  - $\frac{5}{6}(0.18) + \frac{2}{3}(200.1)$
  - $(0.8)(0.06) + 10(0.15)$
  - $\frac{4}{9}(-1.84 + 20.02)$
  - $\frac{1}{2}(-0.16) + \frac{3}{8}(0.0016)$
  - $\frac{1.5}{0.135}$  (Express answer as a fraction in lowest terms.)
  - $\frac{8.032}{25.1}$  (Express answer as an exact decimal.)
- Find the difference of 18.1 and 27.5
- Find the sum of -7.9 and 2.8
- Find the product of .032 and 9.1

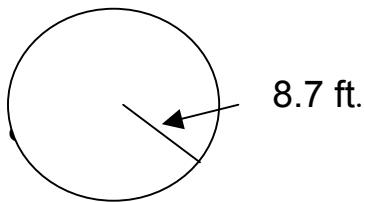
7. Find the quotient of 49 and .07
8. Solve each of the following equations.
- $2x + 0.67 = 6.87$
  - $3x - 0.75 = -10.35$
  - $\frac{1}{2}x + 0.63 = 0.405$
  - $0.4x - 2.1 = -6.7 + 0.3x$
  - $\frac{1}{3}x + 0.02 = 3.79$
9. Solve each of the following word problems. In each problem, write a statement identifying what the variable represents, write an equation and solve it, and then write an English statement interpreting your result. (You may use your calculator on these problems.)
- A rental car company charges \$50 per day and \$.35 a mile for car rental. A customer rented a car for 5 days and paid \$332.95 for the rental. What was the mileage she was charged for?
  - A shipping company charges \$2 per box plus \$.59 per pound for shipping. A customer wants to ship 15 boxes and the total bill is \$257.15. How much was the total weight of the boxes?
  - A customer pays \$23.75 to fax a 10 page document. The charges are \$.25 per minute and \$2 per page. How many minutes did the fax take?
  - Fran has 15 more quarters than dimes. The total value of the quarters and dimes is \$24.05. How many quarters does Fran have?

- e. Eric has 58 coins, 17 of which are half-dollars. The rest are dimes. What is the value of the coins?
- f. Carol spent \$208.75 at the local chocolate store. She bought boxes of cherry cordials and boxes of mixed chocolates. She bought 5 more boxes of mixed chocolates than she did cherry cordials. The cherry cordials cost \$5.95 per box and the mixed chocolates cost \$9.95 per box. How many boxes of each did she buy?

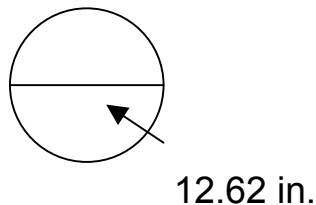
10. Find circumference, area, or volume as requested. Use proper format: Write the formula, plug in the known values, and solve for the requested quantity. You may use your calculator on these problems. Round answers to the nearest hundredth. Use 3.14 for  $\pi$ .

- a. Find the circumference of a circle of radius 19.27 ft.
- b. Find the circumference of a circle of diameter 2.76 in.
- c. Find the area of a circle of radius 0.626 mi.
- d. Find the volume of a cylinder of height 13.1 ft. and radius 16.27 ft.
- e. Find the volume of a sphere of radius 21.7 ft.

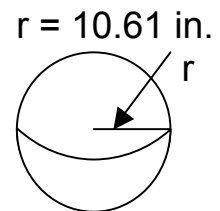
f. Find the circumference.



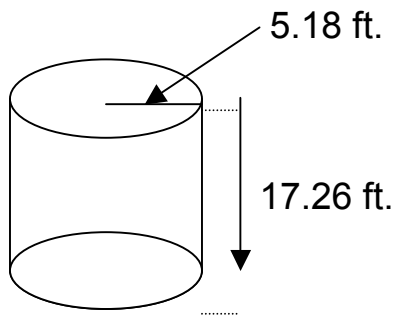
g. Find the area.



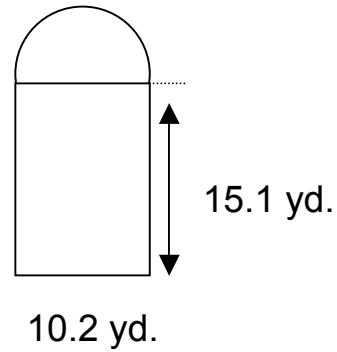
h. Find V.



i. Find the volume



j. Find the area.



11. Simplify each of the following square roots without a calculator (Assume  $x > 0$ ).

a.  $\sqrt{81}$

b.  $5\sqrt{36}$

c.  $3\sqrt{64} + 4\sqrt{100}$

d.  $\sqrt{\frac{25}{121}}$

e.  $\sqrt{75}$

f.  $\sqrt{27x^3}$

12. Use your calculator to approximate each of the following to the nearest thousandth.

a.  $\sqrt{43}$

b.  $\sqrt{2} + \sqrt{3}$

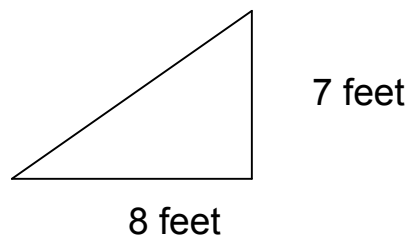
c.  $4\sqrt{5} - 2\sqrt{2}$

d.  $\frac{5}{\sqrt{2}}$

13. How long does it take, to the nearest tenth of a second, for a coin to fall to the ground from a height of 100 feet? Use the falling time formula,

$t = \sqrt{\frac{h}{16}}$ . You may use a calculator. Round your answer to the nearest tenth of a second.

14. Find, to the nearest tenth of a foot, the length of the hypotenuse of the given right triangle. You may use a calculator. Round your answer to the nearest tenth of a foot.



15. Simplify each of the following:

a.  $\left(\frac{4}{7}\right)^0$

b.  $4.324^0$

c.  $\frac{0}{4.16}$

d.  $\frac{18.435}{0}$

## ANSWERS:

1. a.  $27\frac{1}{80}$     b.  $6\frac{4}{125}$     c.  $15\frac{12}{25}$     d.  $9\frac{7}{10}$     e.  $289\frac{3}{50}$     f.  $14\frac{131}{500}$   
 2. a. 0.3125    b.  $0.\overline{18}$     c. 0.0875    d. 0.34375    e. 0.15    f.  $0.\overline{692307}$   
 3. a. 1.8    b. .095    c. 133.55    d. 1.548    e. 8.08    f.  $-.0794$   
 g.  $11\frac{1}{9}$     h. 0.32

4. a. -9.4    5. -5.1    6. 0.2912    7. 700  
 8. a. {3.1}    b. {-3.2}    c. {-45}    d. {-46}    e. {11.31}

9. a. Let  $x$  be the mileage.  
 $\$332.95 = (\$50)(5) + (0.35)x$   
 $x = 237$  mi.  
 The mileage is 237 mi.
- b. Let  $x$  be the total wt.  
 $257.15 = 15(\$2) + (.59)x$   
 $x = 385$  lbs.  
 The total wt. is 385 lbs.

9. c. Let  $x$  be the no. of min.

$$\$23.75 = 10(\$2) + .25x$$

$$x = 15$$

The fax took 15 min.

- d. Let  $x$  be the no. of dimes.

	no.	value
dime	$x$	$.10x$
qu.	$x + 15$	$.25(x+15)$

$$.10x + .25(x + 15) = \$24.05$$

$$x = 58$$

Fran has 73 quarters.

- e. Let  $x$  be the value of the coins.

$$x = 17(.5) + (58 - 17)(.10)$$

$$x = \$8.50 + \$4.10$$

$$x = \$12.60$$

The value is \$12.60

- f. Let  $x$  be the no. of boxes of cherry cordials.

	no. boxes	value
cherry	$x$	$x(5.95)$
mixed	$x + 5$	$(x+5)(9.95)$

$$x(5.95) + (x + 5)(9.95) = 208.75$$

$$x = 10$$

She bought 10 boxes of cherry cordials and 15 boxes of mixed chocolates.

10. a.  $C = 2\pi r$

$$C \cong 2(3.14)(19.27 \text{ ft.})$$

$$C \cong 121.02 \text{ ft.}$$

- b.  $C = \pi d$

$$C \cong (3.14)(2.76 \text{ in.})$$

$$C \cong 8.67 \text{ in.}$$

$$c. A = \pi r^2$$

$$A \cong (3.14)(0.026mi)^2$$

$$A \cong 1.23mi^2$$

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

$$V \cong \frac{4}{3}(3.14)(21.7ft)^3$$

$$V \cong 42,780.67ft^3$$

$$g. A = \pi r^2$$

$$A \cong (3.14)(6.31in)^2$$

$$A \cong 125.02in^2$$

$$i. V = \pi r^2 h$$

$$V \cong 3.14(5.18ft)^2(17.26ft)$$

$$V \cong 1454.22ft^3$$

$$d. V = \pi r^2 h$$

$$V \cong (3.14)(16.27ft)^2(13.1ft)$$

$$V \cong 10,888.70ft^3$$

$$f. C = 2\pi r$$

$$C \cong 2(3.14)(8.7yds)$$

$$C \cong 54.64yds$$

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

$$V \cong \frac{4}{3}(3.14)(10.61in)^3$$

$$V \cong 5000.51in^3$$

$$j. A = \frac{1}{2}\pi r^2 + lw$$

$$A \cong \frac{1}{2}(3.14)(5.1yd)^2 + (10.2yd)(15.1yd)$$

$$A \cong 194.86yd^2$$

11. a. 9  
 b. 30  
 c. 64  
 d. 5/11  
 e.  $5\sqrt{3}$   
 f.  $3x\sqrt{3x}$   
 g.  $14\sqrt{3}$

12. a.  $\sqrt{43} \cong 6.557$   
 b.  $\sqrt{2} + \sqrt{3} \cong 3.146$   
 c.  $4\sqrt{5} - 2\sqrt{2} \cong 6.116$   
 d.  $\frac{5}{\sqrt{2}} \cong 3.536$

13. 2.5 seconds

14. 10.6 feet

15. a 1    b. 1    c. 0    d. undefined