

## Chapter Test for Chapter P

1. (a)  $-\frac{5}{2} > -|-3|$   
 (b)  $-\frac{2}{3} > -\frac{3}{2}$
2.  $d = |-6.2 - 5.7| = 11.9$
3.  $-14 + 9 - 15 = (-14 + 9) - 15$   
 $= -5 - 15$   
 $= -20$
4.  $\frac{2}{3} + \left(-\frac{7}{6}\right) = \frac{4}{6} + \left(-\frac{7}{6}\right) = -\frac{3}{6} = -\frac{1}{2}$
5.  $-2(225 - 150) = -2(75) = -150$
6.  $(-3)(4)(-5) = (-12)(-5)$   
 $= 60$
7.  $\left(-\frac{7}{16}\right)\left(-\frac{8}{21}\right) = \frac{1}{6}$
8.  $\frac{5}{18} \div \frac{15}{8} = \frac{5}{18} \cdot \frac{8}{15} = \frac{4}{27}$
9.  $\left(-\frac{3}{5}\right)^3 = \frac{-27}{125}$
10.  $\frac{4^2 - 6}{5} + 13 = \frac{16 - 6}{5} + 13$   
 $= \frac{10}{5} + 13$   
 $= 2 + 13$   
 $= 15$
11. (a)  $(-3 \cdot 5) \cdot 6 = -3(5 \cdot 6)$  demonstrates the Associative Property of Multiplication.  
 (b)  $3y \cdot \frac{1}{3y} = 1$  demonstrates the Multiplicative Inverse Property.
12.  $5(2x - 3) = 5(2x) - 5(3)$
13.  $(3x^2y)(-xy)^2 = (3x^2y)(x^2y^2) = 3x^4y^3$
14.  $3x^2 - 2x - 5x^2 + 7x - 1 = -2x^2 + 5x - 1$
15.  $a(5a - 4) - 2(2a^2 - 2a) = 5a^2 - 4a - 4a^2 + 4a$   
 $= a^2$
16.  $4t - [3t - (10t + 7)] = 4t - [3t - 10t - 7]$   
 $= 4t - [-7t - 7]$   
 $= 4t + 7t + 7$   
 $= 11t + 7$
17. Evaluating an expression means to substitute numerical values for each of the variables in the expression and then to simplify according to the rules for order of operations.
- (a)  $x = -1 \Rightarrow 4 - (-1 + 1)^2$   
 $4 - (0)^2$   
 $4$
- (b)  $x = 3 \Rightarrow 4 - (3 + 1)^2$   
 $4 - (4)^2$   
 $4 - 16$   
 $-12$

18. “The product of a number  $n$  and 5 is decreased by 8” is translated into the algebraic expression  $5n - 8$ .

$$19. \text{Perimeter} = 2(l) + 2(0.6l) = 2l + 1.2l = 3.2l$$

$$\text{Area} = l(0.6l) = 0.6l^2$$

20. *Verbal Description:* The sum of two consecutive even integers, the first of which is  $2n$ .

*Labels:*  $2n =$  first even integer

$$2n + 2 = \text{second even integer}$$

*Algebraic Description:*  $2n + (2n + 2) = 4n + 2$

21. *Verbal model:*  $9 \cdot \boxed{\text{Length of each piece}} = \boxed{\text{Total length}}$

*Equation:*  $9 \cdot n = 144$

$$n = 16 \text{ feet}$$

22. *Verbal model:*  $\boxed{\text{Volume of 1 cord}} = \boxed{\text{Length}} \cdot \boxed{\text{Width}} \cdot \boxed{\text{Height}}$

*Equation:*  $V = 4 \cdot 4 \cdot 8$

$$V = 128 \text{ cubic feet}$$

*Verbal model:*  $\boxed{\text{Volume of 5 cords}} = 5 \cdot \boxed{\text{Volume of 1 cord}}$

*Equation:*  $V = 5 \cdot 128$

$$= 640 \text{ cubic feet}$$