

$$\begin{array}{lll}
 26. \quad r_1 = 18 \text{ knots} & d_1 = d_2 & 18(13.75) = 22(13.75 - 2.5) \\
 r_2 = 22 \text{ knots} & r_1 t_1 = r_2 t_2 & 247.5 = 22(11.25) \\
 t_1 = t & 18t = 22(t - 2.5) & 247.5 = 247.5 \checkmark \\
 t_2 = t - 2.5 & 18t = 22t - 55 & \\
 & 18t - 22t = -55 & \\
 & -4t = -55 & \\
 & t = 13.75 & \\
 & d_1 = 18(13.75) & \\
 & d_1 = 247.5 \text{ mi.} & \\
 \text{Distance (18 knots): 247.5 mi.} & & \\
 & d_1 + d_2 = 2(247.5) & \\
 & d_1 + d_2 = 495 \text{ mi.} & \\
 \text{Total Distance: 495 mi.} & &
 \end{array}$$

REVIEW 2.8

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$$\begin{array}{lll}
 1. \quad (4 + 3)^2 - (-5)(-2) = (7)^2 - (10) & 2. \quad -5^2 + \frac{2 - 8}{-3} = -25 + \frac{-6}{-3} & 3. \quad 6 \\
 = 49 - 10 & = -25 + 2 & \\
 = 39 & = -23 &
 \end{array}$$

$$\begin{array}{ll}
 4. \quad -[3 \cdot (4 - 2)][2 - (5 - 9)] = -[3 \cdot (2)][2 - (-4)] & 5. \quad \frac{8(4)(1 - 5 + 2)}{-6(3)(-2)} = \frac{8(4)(-2)}{-18(-2)} \\
 = -6(2 + 4) & = \frac{32(-2)}{36} \\
 = -6(6) & = \frac{-64}{36} \\
 = -36 & = -\frac{16}{9}
 \end{array}$$

$$\begin{array}{lll}
 6. \quad -6 + (-2) = -6 - 2 & 7. \quad -6 - (-2) = -6 + 2 & 8. \quad -6(-2) = 12 \\
 = -8 & = -4 &
 \end{array}$$

$$\begin{array}{lll}
 9. \quad -6 \div -2 = \frac{-6}{-2} & 10. \quad -2(-4)(-3)(-3) = 8(9) & 11. \quad -\frac{15 + 3}{6} = -\frac{18}{6} \\
 = 3 & = 72 & = -3
 \end{array}$$

$$\begin{array}{lll}
 12. \quad -2(-4) + (-5)(3) = 8 + (-15) & 13. \quad (-3)^2 - 3^2 = 9 - 9 & 14. \quad 6 \cdot |-3| + (-8) = 6 \cdot 3 - 8 \\
 = 8 - 15 & = 0 & = 18 - 8 \\
 = -7 & & = 10
 \end{array}$$

PRACTICE 2.8

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1. \$1.05 2. \$98,688 3. $\$0.10x + \0.30 4. $\$0.25x - \2.25

5. $\$0.04x + \0.08 6. $\$0.30x - \0.60 7. $\$1.75x - \10.50 8. $\$2.64y + \4.40

9. $\$0.05y$ 10. $\$0.80y - \$0.80z$

11. $x =$ first number
 $x + 5 =$ second number

$$x + x + 5 = 39$$

$$2x + 5 = 39$$

$$2x = 34$$

$$x = 17$$

Numbers: 17, 22

$$17 + 22 = 39 \checkmark$$

12. $x =$ first number
 $2x =$ second number

$$x + 2x = 27$$

$$3x = 27$$

$$x = 9$$

Numbers: 9, 18

$$9 + 18 = 27 \checkmark$$

13. $x =$ first number
 $\frac{2}{3}x =$ second number

$$x + \frac{2}{3}x = 50$$

$$\frac{5}{3}x = 50$$

$$x = \frac{3}{5}(50)$$

$$x = 30$$

Numbers: 30, 20

$$30 + 20 = 50 \checkmark$$

14. $x =$ first number
 $x + 0.25x =$ second number

$$x + x + 0.25x = 135$$

$$2.25x = 135$$

$$x = 60$$

$$1.25(60) = 75$$

Numbers: 60, 75

$$60 + 75 = 135 \checkmark$$

15. $x =$ first number
 $x + 0.7x =$ second number

$$x + x + 0.7x = 405$$

$$2.7x = 405$$

$$x = 150$$

$$1.7(150) = 255$$

Numbers: 150, 255

$$150 + 255 = 405 \checkmark$$

16. $x =$ first number
 $x - 0.25x =$ second number

$$x - (x - 0.25x) = 22$$

$$x - 0.75x = 22$$

$$0.25x = 22$$

$$x = 88$$

$$0.75(88) = 66$$

Numbers: 88, 66

$$88 - 66 = 22 \checkmark$$

17. $x =$ Chad
 $x - 3 =$ Janie

$$x + x - 3 = 27$$

$$2x - 3 = 27$$

$$2x = 30$$

$$x = 15$$

Janie: 12 years old

$$15 + 12 = 27 \checkmark$$

18. $x =$ Hilary
15 = Ariel

$$2x + 3 = 15$$

$$2x = 12$$

$$x = 6$$

Hilary: 6 years old

$$2(6) + 3 = 15$$

$$12 + 3 = 15$$

$$15 = 15 \checkmark$$

19. $x =$ shorter piece
 $x + 7 =$ longer piece

$$x + x + 7 = 45$$

$$2x + 7 = 45$$

$$2x = 38$$

$$x = 19 \text{ in.}$$

Lengths: 19 in., 26 in.

$$19 + 26 = 45 \checkmark$$