

Chapter 3 Review

1. Solve.

- a) $x + 5 = 9$
- b) $f - 7 = 3$
- c) $3h = 15$
- d) $\frac{k}{4} = 3$

2. Solve.

- a) $2x + 5 = 11$
- b) $3y - 5 = -8$
- c) $10 + 4f = -34$
- d) $-5m - 3 = 12$

3. Solve.

- a) $5x + 2 = 12$
- b) $3p + 8 = 5$
- c) $4 + 6w = 2$
- d) $-6 + 4u = -3$

4. John has \$23.65 to spend on a book and magazines. The book costs \$5.95. Each magazine costs \$2.95. Determine how many magazines John can buy.

5. Solve.

- a) $5x + 4 = 2x + 13$
- b) $4c - 3 = 2c + 5$
- c) $-3r + 7 = -5r - 3$
- d) $-6g - 4 = -3g + 2$

6. Solve.

- a) $2a + 5 = 6a + 9$
- b) $3b - 7 = b + 5$
- c) $5n + 8 = 8n - 10$
- d) $-7d + 3 = -3d + 11$

7. A triangle has angle measures that are related as follows:

- The largest angle is 12 times the smallest angle
- The middle angle is 5 times the smallest angle

Find the measures of the angles.

8. Solve.

- a) $\frac{1}{2}(x + 3) = 5$
- b) $\frac{b-5}{7} = 3$
- c) $6 = \frac{2}{3}m - 1$
- d) $-5 = \frac{3d+4}{3}$

9. Solve.

- a) $4 = \frac{5r+7}{3}$
- b) $\frac{1}{3}(p + 5) = 2p - 3$
- c) $3q + 15 = \frac{1}{2}(q - 5)$
- d) $\frac{2b+5}{4} = 3$

10. Solve.

- a) $\frac{x-5}{3} = \frac{x+4}{4}$
 b) $\frac{3}{4}(y-2) = \frac{2}{3}(y+1)$
 c) $\frac{b+5}{3} = \frac{b-3}{5}$
 d) $\frac{3}{5}(v+2) = \frac{1}{2}(v-3)$

11. Rearrange each formula for the variable indicated.

- a) $F = ma$ for m
 b) $V = IR$ for I
 c) $A = \pi r^2$ for r
 d) $P = 2l + 2w$ for w
 e) $y = mx + b$ for x

12. The power, P , in an electric circuit is related to the voltage, V , and resistance, R , by the formula $P = \frac{V^2}{R}$.

- a) Find the power, in watts (W), when the voltage is 100 V (volts) and the resistance is 50 Ω (ohms).
 b) What is the resistance of a circuit that uses 100 W of power with a voltage of 20 V?
 c) The resistance of a circuit is 15 Ω . The same circuit uses 60 W of power. Find the voltage in the circuit.

13. The total of three cousins' ages is 48. Abbey is half as old as Ben and 4 years older than Colby. How old are the cousins?

14. Adele sells T-shirts at a concert. She earns \$8.00/h, plus 50 cents for each T-shirt she sells.

- a) How much will Adele earn in a 4h shift if she sells 35 T-shirts?
 b) How many T-shirts must Adele sell to earn \$80 in a 6h shift?

Answers:

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1. a) $x = 4$ b) $f = 10$ c) $h = 5$ d) $k = 12$
 2. a) $x = 3$ b) $y = -1$ c) $f = -11$ d) $m = -3$
 3. a) $x = 2$ b) $p = -1$ c) $w = -\frac{1}{3}$ d) $u = \frac{3}{4}$
 4. a) $5.95 + 2.95m = 23.65$, where m represents the number of magazines John can afford.
 b) $m = 6$
 5. a) $x = 3$ b) $c = 4$ c) $r = -5$ d) $g = -2$
 6. a) $a = -1$ b) $b = 6$ c) $n = 6$ d) $d = -2$
 7. $10^\circ, 50^\circ, 120^\circ$
 8. a) $x = 7$ b) $b = 26$ c) $m = \frac{21}{2}$ d) $d = -\frac{19}{3}$
 9. a) $r = 1$ b) $p = \frac{14}{5}$ c) $q = -7$ d) $b = \frac{7}{2}$
 10. a) $x = 32$ b) $y = 26$ c) $b = -17$ d) $v = -27$
 11. a) $m = \frac{F}{a}$ b) $I = \frac{V}{R}$ c) $r = \sqrt{\frac{A}{\pi}}$ d) $w = \frac{P-2l}{2}$
 e) $x = \frac{y-b}{m}$
 12. a) 200 W b) 4 Ω c) 30 V

13. Abbey is 13, Ben is 26, Colby is 9

14. a) \$49.50 b) 64