

TEST BANK



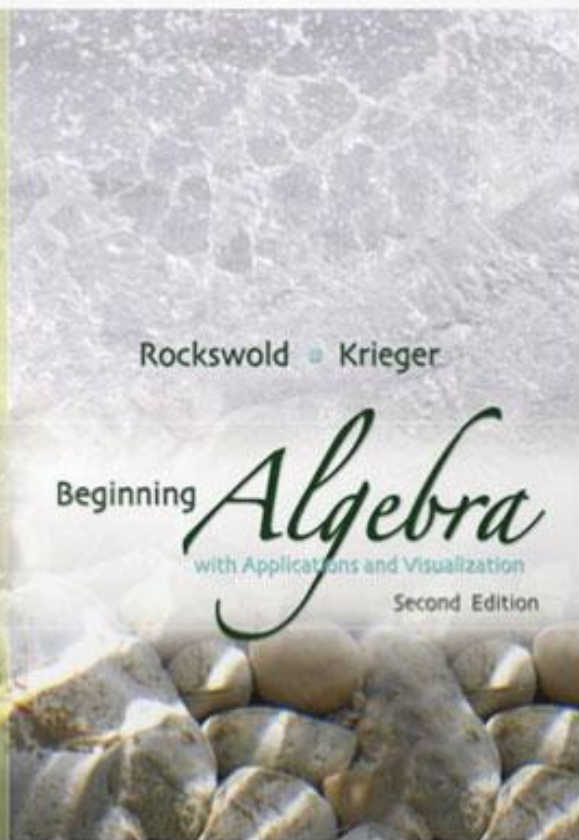
Rockswold • Krieger

Beginning

Algebra

with Applications and Visualization

Second Edition



In #1 through #3, solve the equation. Check your solution.

1. $-2 = -8 + 2x$

1. _____

2. $5 - 2x = x + 4$

2. _____

3. $3 + 4(x - 2) = x + 1$

3. _____

4. Determine the number of solutions to the equation
 $3(2x - 1) = 6x - 3.$

4. _____

5. Complete the table. Then use the table to solve $5 + 3x = 5.$

5.

| | | | | | |
|----------|----|----|---|---|---|
| x | -2 | -1 | 0 | 1 | 2 |
| $5 + 3x$ | | 2 | | | |

*In #6 and #7, translate the sentence into an equation, using the variable x .
Then solve the resulting equation.*

6. The sum of 4 times a number and 9 is 7.

6. _____

7. Three times a number plus 2 equals the number minus 4.

7. _____

8. The sum of three consecutive natural numbers is 75.
Find the three numbers.

8. _____

9. Convert 4.4% to fraction and decimal notation.

9. _____

10. Convert 0.217 to a percentage.

10. _____

11. Find 7% of \$320.

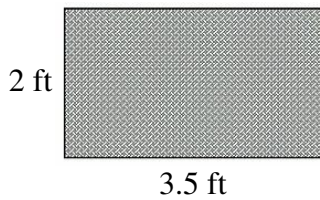
11. _____

12. Use the formula $d = rt$ to find the value of the missing variable. $d = 175$ mi; $t = 2.5$ hours

12. _____

13. Find the area of the rectangle shown.

13. _____



14. Find the area of a triangle with a 9-inch base and a 6-inch height.

14. _____

15. Find the circumference and area of a circle with a 12-cm diameter.

15. _____

16. The measures of the angles in a triangle are x , $3x$, and $5x$. Find the value of x .

16. _____

17. Solve the formula $y = 2xz + z$ for x .

17. _____

18. Solve the formula $C = \frac{5}{9}(F - 32)$ for F .

18. _____

In #19 and #20, solve the inequality.

19. $-2 - x \geq 8 + 3x$

19. _____

20. $3 + 4(x - 2) < x + 1$

20. _____

In #1 through #3, solve the equation. Check your solution.

1. $-2x + 5 = -7$

1. _____

2. $3x + 2 = -2x + 2$

2. _____

3. $2(4x - 3) + 1 = x$

3. _____

4. Determine the number of solutions to the equation
 $3(4x + 2) = -6(1 - 2x)$.

4. _____

5. Complete the table. Then use the table to solve $3x - 4 = 5$.

5.

| | | | | | |
|----------|---|---|---|---|---|
| x | 0 | 1 | 2 | 3 | 4 |
| $3x - 4$ | | | 2 | | |

*In #6 and #7, translate the sentence into an equation, using the variable x .
Then solve the resulting equation.*

6. The difference between 2 times a number and 3 is 2.

6. _____

7. Twice a number minus 4 equals the number plus 1.

7. _____

8. The sum of three consecutive integers is -54 .
Find the three integers.

8. _____

9. Convert 31.5% to fraction and decimal notation.

9. _____

10. Convert 0.028 to a percentage.

10. _____

11. Find 2.5% of \$850.

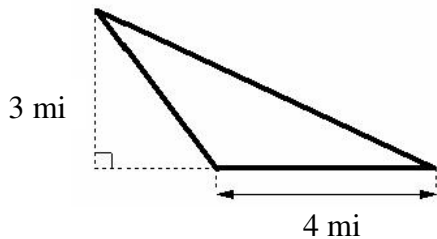
11. _____

12. Use the formula $d = rt$ to find the value of the missing variable. $d = 1250$ mi; $r = 250$ mi/day

12. _____

13. Find the area of the triangle shown.

13. _____



14. Find the area of a rectangle with a 4-foot width and a 7-foot length.

14. _____

15. Find the circumference and area of a circle with an 8-inch diameter.

15. _____

16. The measures of the angles in a triangle are x , $3x$, and $6x$. Find the value of x .

16. _____

17. Solve the formula $c = ab - 3b$ for a .

17. _____

18. Solve the formula $A = 2\pi rh$ for r .

18. _____

In #19 and #20, solve the inequality.

19. $4 - \frac{1}{2}x > x + 1$

19. _____

20. $2 - 3(x + 4) \geq 2x - 1$

20. _____

In #1 through #3, solve the equation. Check your solution.

1. $3 + \frac{1}{4}x = -7$ 1. _____

2. $4 - \frac{1}{2}x = x + 1$ 2. _____

3. $\frac{3}{4}(x + 2) - 1 = \frac{5}{4}x - 3$ 3. _____

4. Determine the number of solutions to the equation
 $2(x + 4) = 4(x - 2)$. 4. _____

5. Complete the table. Then use the table to solve $2 - 3x = -1$. 5.

| | | | | | |
|----------|----|----|---|---|---|
| x | -2 | -1 | 0 | 1 | 2 |
| $2 - 3x$ | 8 | | | | |

| | | | | | |
|----------|----|----|---|---|---|
| x | -2 | -1 | 0 | 1 | 2 |
| $2 - 3x$ | 8 | | | | |

6. Mindy's mother is 5 years older than three times Mindy's age. Mindy's mother is 32. How old is Mindy? 6. _____

7. The length of a rectangular pen is 6 feet longer than twice its width. If the rectangle has a perimeter of 84 feet, what are the dimensions of the rectangular pen? 7. _____

8. On each of three consecutive days, the snowfall exceeded that of the previous day by one inch. The total snowfall for the three days was 18 inches. How much snow fell each day? 8. _____

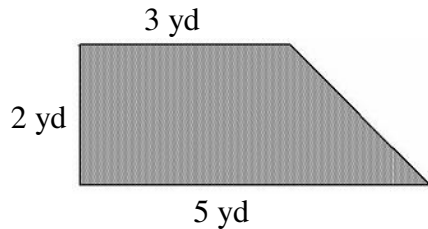
9. In the 2000 presidential election, 21.8% more people voted than in 1980. Write this percentage in fraction and decimal notation. 9. _____

10. In a recent survey of 1500 people, 480 stated that they believe that people will meet their mates via the Internet. Write this information as a percentage. 10. _____

11. Tuition is currently \$140 per credit. There are plans to raise tuition by 5% for the next year. What will the new tuition be per credit? 11. _____

12. Becca is 50 miles east of San Antonio, Texas and is driving west at 60 miles per hour. How long will it be before she is 160 miles west of San Antonio? 12. _____

13. Find the area of the region shown. 13. _____



14. Find the area of a triangle flower bed having an 11-foot base and a 5-foot height. 14. _____

15. Find the area of a circular arena with a 48-foot diameter. 15. _____

16. The measures of the angles in a triangle are x , $3x$, and $4x$. Find the value of x . 16. _____

17. Solve the formula $L = 2mn + 3n$ for m . 17. _____

18. The formula for the area of a trapezoid is $A = \frac{1}{2}h(a + b)$. Solve this formula for h . 18. _____

19. Solve the inequality $\frac{3}{2}(x + 4) - 2 \leq \frac{1}{4}x + 2$. 19. _____

20. If the air temperature is greater than the dew point, clouds do not form. If the air temperature cools to or drops below the dew point, either fog or clouds appear. Suppose the air temperature x miles high is given by $T(x) = 90 - 29x$ and the dew point x miles high is given by $D(x) = 70 - 5.8x$. Determine the altitudes where clouds may form.

20. _____

1. Solve $-4 = 3x + 5$. Check your solution. 1. _____
(a) $\frac{1}{3}$ (b) $-\frac{1}{2}$ (c) -2 (d) -3
2. Solve $-2 - x = 8 + 3x$. Check your solution. 2. _____
(a) -5 (b) $-\frac{5}{2}$ (c) 3 (d) $\frac{3}{2}$
3. Solve $2 - 3(x + 4) = 2x - 1$. Check your solution. 3. _____
(a) $-\frac{9}{5}$ (b) $\frac{7}{5}$ (c) 3 (d) -9
4. Determine the number of solutions to the equation $-2(x - 3) = 6\left(1 - \frac{x}{3}\right)$. 4. _____
(a) none (b) one (c) infinitely many (d) cannot be determined
5. Use the table to solve $2x - 3 = -1$. 5. _____
- | | | | | | |
|----------|------|------|------|------|-----|
| x | -2 | -1 | 0 | 1 | 2 |
| $2x - 3$ | -7 | -5 | -3 | -1 | 1 |
- (a) 0 (b) -5 (c) 2 (d) 1
- In #6 and #7, translate the sentence into an equation, using the variable x . Then solve the resulting equation.*
6. The difference between 5 and 2 times a number is 6. 6. _____
(a) $-\frac{11}{2}$ (b) $-\frac{1}{2}$ (c) $\frac{11}{2}$ (d) $\frac{1}{2}$
7. Three times a number minus -2 equals the number plus 4. 7. _____
(a) $\frac{1}{2}$ (b) 1 (c) -3 (d) 3

8. The sum of three consecutive integers is -78 . Find the integers. 8. _____

- (a) $-27, -26, -25$ (b) $-26, -26, -26$ (c) $-28, -26, -24$ (d) $-79, -78, -77$

9. Convert 1.2% to decimal notation. 9. _____

- (a) 12 (b) 120 (c) 0.012 (d) 0.12

10. Convert 0.024 to a percentage. 10. _____

- (a) 0.24% (b) 0.024% (c) 2.4% (d) 24%

11. Find 18% of $\$650$. 11. _____

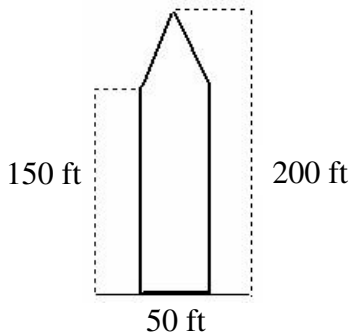
- (a) $\$117$ (b) $\$11,700$ (c) $\$1170$ (d) $\$11.70$

12. Use the formula $d = rt$ to find the value of the missing variable. 12. _____

$d = 1000$ ft; $r = 20$ ft/sec

- (a) $t = 0.02$ sec (b) $t = 20,000$ sec (c) $t = 5$ sec (d) $t = 50$ sec

13. Find the area of the region shown. 13. _____



- (a) 7500 ft^2 (b) $10,000 \text{ ft}^2$ (c) 8750 ft^2 (d) $17,500 \text{ ft}^2$

14. Find the area of a rectangle having a 6-inch width and a 9-inch length. 14. _____

- (a) 54 in^2 (b) 30 in^2 (c) 27 in^2 (d) 15 in^2

15. Find the area of a circle with a 10-cm diameter. 15. _____

- (a) $100\pi \text{ cm}^2$ (b) $10\pi \text{ cm}^2$ (c) $25\pi \text{ cm}^2$ (d) $20\pi \text{ cm}^2$

16. The measures of the angles in a triangle are x , $3x$, and $x+5$. Find the value of x . 16. _____

- (a) 57° (b) 35° (c) 90° (d) 20°

17. Solve the formula $b = 5ac - 7a$ for c . 17. _____

- (a) $b + 7a$ (b) $\frac{b+7a}{5a}$ (c) $\frac{b-5a}{7a}$ (d) $5ab - 7a$

18. Solve the formula $P = 2L + 2W$ for L . 18. _____

- (a) $L = P - W$ (b) $L = \frac{P-W}{2}$ (c) $L = 2P - 2W$ (d) $L = \frac{P-2W}{2}$

19. Solve the inequality $3x + 2 \leq -2x + 2$. 19. _____

- (a) $x \leq 5$ (b) $x \leq 0$ (c) $x \leq 4$ (d) $x \geq \frac{4}{5}$

20. Solve the inequality $2(4x - 3) + 1 > x$. 20. _____

- (a) $x > \frac{5}{7}$ (b) $x > \frac{3}{4}$ (c) $x > \frac{2}{5}$ (d) $x > \frac{2}{7}$

