

# Math Connections



## Math Course 2—Week 3 Answers

### Scaling Figures And Scale Factor 4.1.1 and 4.1.2 Answers

#### Answers

1.  $\frac{4}{8} = \frac{1}{2}$

3.  $\frac{2}{1}$

5. a. 15, 36, 39    b.  $\frac{3}{1}$

2.  $\frac{2}{8} = \frac{1}{4}$

4.  $\frac{1}{3}$

6. a. 15 cm and 10 cm    b.  $\frac{1}{4}$

### Proportional Relationships 4.2.1, 4.2.2 and 4.2.4 Answers

#### Answers

1.  $43 \frac{\text{words}}{\text{minute}}$

2.  $3 \frac{\text{pages}}{\text{minute}}$

3.  $2.89 \frac{\$}{\text{box}}$

4.  $2.45 \frac{\text{points}}{\text{minute}}$

5.  $0.84 \frac{\$}{\text{pound}}$

6.  $3.38 \frac{\$}{\text{pound}}$

7.  $2 \frac{\text{acre}}{\text{hour}}$

8.  $2.29 \frac{\$}{\text{pound}}$

9.  $\frac{2}{5} \frac{\text{grams}}{\text{centimeter}}$

10.  $\approx 27 \frac{\text{miles}}{\text{hour}}$

11. \$10.69

12. 24.5 min.

13. 19.2 hours

14. \$153

15. 22.5 hours

16.  $\frac{8}{9}$  cup

17. \$175

18.  $4 \frac{2}{3}$  inches

19.  $\approx 5.36$  miles

20.  $9 \frac{1}{3}$  cans

21.  $3 \frac{3}{8}$  hours

22.  $g = \frac{5}{2}t$

23.  $s = \frac{3}{4}x$

24.  $t = 0.09c$

25.  $C = 3.5b$

### Rates And Unit Rates 4.2.3 and 4.2.4 Answers

#### Answers

- |                        |                                 |                                |                      |
|------------------------|---------------------------------|--------------------------------|----------------------|
| 1. 54 cups             | 2. 75 min                       | 3. 2550 miles                  | 4. $3\frac{2}{3}$ hr |
| 5. 32 gallons          | 6. C, B, A                      | 7. C, A, B                     | 8. 162.7 mi/hr       |
| 9. $\approx 14.15$ m/s | 10. $\approx \$0.10/\text{min}$ | 11. 25 m/g; $\frac{1}{25}$ g/m | 12. 6 ft/hr          |

### Algebra Tiles And Perimeter 4.3.1 Answers

#### Answers

- |                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|
| 1. $4x + 4$ un. | 2. $4x + 4$ un. | 3. $2x + 8$ un. | 4. $4x + 6$ un. |
| 5. $4x + 4$ un. | 6. $4x + 2$ un. | 7. $4x + 4$ un. | 8. $2x + 4$ un. |

### Combining Like Terms 4.3.1 Answers

#### Answers

- |                        |                             |                      |                   |
|------------------------|-----------------------------|----------------------|-------------------|
| 1. $6x^2 + 8x + 13$    | 2. $4x^2 + 5x + 11$         | 3. $12x^2 + 5x + 7$  | 4. $x^2 + 4x + 1$ |
| 5. $6x^2 - 9x - 2$     | 6. $2x^2 - 10x + 9$         | 7. $-5x^2 + 11x + 4$ | 8. $7x + 2$       |
| 9. $-c^2 + 4c + x - 3$ | 10. $3a^3 - 2a^2 + 2a + 14$ |                      |                   |

### Distributive Property 4.3.2 Answers

#### Answers

- |   |   |                   |                     |
|---|---|-------------------|---------------------|
| 1. $(6 \cdot 9) + (6 \cdot 4) = 54 + 24 = 78$ | 2. $(4 \cdot 9) + (4 \cdot 8) = 36 + 32 = 68$ |                   |                     |
| 3. $56 + 42 = 98$                             | 4. $35 + 20 = 55$                             | 5. $60 + 21 = 81$ | 6. $240 + 36 = 276$ |
| 7. $320 + 24 = 344$                           | 8. $420 + 48 = 468$                           | 9. $3x + 18$      | 10. $5x + 35$       |
| 11. $8x - 32$                                 | 12. $6x - 60$                                 | 13. $4x + 32$     | 14. $5x + 10$       |
| 15. $-7x - 7$                                 | 16. $-4y - 12$                                | 17. $-3y + 15$    | 18. $-5b + 20$      |
| 19. $-x - 6$                                  | 20. $-x - 7$                                  | 21. $-x + 4$      | 22. $x + 3$         |
| 23. $x^2 + 3x$                                | 24. $4x^2 + 8x$                               | 25. $-5x^2 + 7x$  | 26. $-2x^2 + 6x$    |

### Distributive Property 4.3.2 Answers

#### Answers

- |     |            |     |             |     |                |     |            |
|-----|------------|-----|-------------|-----|----------------|-----|------------|
| 1.  | $6(x+2)$   | 2.  | $5(y-2)$    | 3.  | $4(2x+5z)$     | 4.  | $x(x+y)$   |
| 5.  | $8(m+3)$   | 6.  | $8(2y+5)$   | 7.  | $4(2m-1)$      | 8.  | $5(5y-2)$  |
| 9.  | $2x(x-5)$  | 10. | $21(x^2-3)$ | 11. | $21x(x-3)$     | 12. | $5(3y+7)$  |
| 13. | $4(x+y+z)$ | 14. | $6(x+2y+1)$ | 15. | $7(2x^2-7x+4)$ | 16. | $x(x-1+y)$ |

### Simplifying Expressions (On An Expression Mat) 4.3.3 Answers

#### Answers

- |     |             |     |           |     |             |
|-----|-------------|-----|-----------|-----|-------------|
| 1.  | 3           | 2.  | $2x-2$    | 3.  | $2x^2-2x$   |
| 4.  | $-x^2+3x-4$ | 5.  | $x^2-x+4$ | 6.  | $-2x$       |
| 7.  | $3x-2$      | 8.  | $-x+4$    | 9.  | $x^2+x+2$   |
| 10. | $-x+2$      | 11. | $-2x-4$   | 12. | $x+9$       |
| 13. | $-x^2-2x+4$ | 14. | $x-1$     | 15. | $2x^2+2x+5$ |