

## Rewriting Formulas (A)

Solve for  $c$  in terms of the other variables.

1.  $y - (-10 - c) = z$

6.  $c + b - z = 10$

11.  $c + a + x = v$

2.  $z - c + 2 = v$

7.  $x - (c + a) = b$

12.  $c + x + a = v$

3.  $c + a + y = 3$

8.  $x - (c + u) = y$

13.  $2 = u - (c + x)$

4.  $c + x + 4 = y$

9.  $u = b - (c + v)$

14.  $v - c + z = 3$

5.  $c - v + u = a$

10.  $c + z - x = b$

15.  $y = c + u - x$

## Rewriting Formulas (A) Answers

Solve for  $c$  in terms of the other variables.

$$\begin{aligned} 1. \quad y - (-10 - c) &= z \\ c &= -10 - (y - z) \end{aligned}$$

$$\begin{aligned} 6. \quad c + b - z &= 10 \\ c &= 10 + z - b \end{aligned}$$

$$\begin{aligned} 11. \quad c + a + x &= v \\ c &= v - x - a \end{aligned}$$

$$\begin{aligned} 2. \quad z - c + 2 &= v \\ c &= z - (v - 2) \end{aligned}$$

$$\begin{aligned} 7. \quad x - (c + a) &= b \\ c &= x - b - a \end{aligned}$$

$$\begin{aligned} 12. \quad c + x + a &= v \\ c &= v - a - x \end{aligned}$$

$$\begin{aligned} 3. \quad c + a + y &= 3 \\ c &= 3 - y - a \end{aligned}$$

$$\begin{aligned} 8. \quad x - (c + u) &= y \\ c &= x - y - u \end{aligned}$$

$$\begin{aligned} 13. \quad 2 &= u - (c + x) \\ c &= u - 2 - x \end{aligned}$$

$$\begin{aligned} 4. \quad c + x + 4 &= y \\ c &= y - 4 - x \end{aligned}$$

$$\begin{aligned} 9. \quad u &= b - (c + v) \\ c &= b - u - v \end{aligned}$$

$$\begin{aligned} 14. \quad v - c + z &= 3 \\ c &= v - (3 - z) \end{aligned}$$

$$\begin{aligned} 5. \quad c - v + u &= a \\ c &= a - u + v \end{aligned}$$

$$\begin{aligned} 10. \quad c + z - x &= b \\ c &= b + x - z \end{aligned}$$

$$\begin{aligned} 15. \quad y &= c + u - x \\ c &= y + x - u \end{aligned}$$

## Rewriting Formulas (B)

Solve for  $z$  in terms of the other variables.

1.  $10 = x - (z + v)$

6.  $x = z + u + v$

11.  $4 = z + u + b$

2.  $c = z + (-6) + a$

7.  $u - z + a = v$

12.  $z + v + b = a$

3.  $b - (z + v) = u$

8.  $z + c - 7 = a$

13.  $z + u + x = y$

4.  $c - z + (-10) = y$

9.  $x - z - u = v$

14.  $c - z + b = v$

5.  $z + y - a = 8$

10.  $v - (3 - z) = b$

15.  $b - z - x = v$

## Rewriting Formulas (B) Answers

Solve for  $z$  in terms of the other variables.

$$\begin{aligned} 1. \quad 10 &= x - (z + v) \\ z &= x - 10 - v \end{aligned}$$

$$\begin{aligned} 6. \quad x &= z + u + v \\ z &= x - v - u \end{aligned}$$

$$\begin{aligned} 11. \quad 4 &= z + u + b \\ z &= 4 - b - u \end{aligned}$$

$$\begin{aligned} 2. \quad c &= z + (-6) + a \\ z &= c - a - (-6) \end{aligned}$$

$$\begin{aligned} 7. \quad u - z + a &= v \\ z &= u - (v - a) \end{aligned}$$

$$\begin{aligned} 12. \quad z + v + b &= a \\ z &= a - b - v \end{aligned}$$

$$\begin{aligned} 3. \quad b - (z + v) &= u \\ z &= b - u - v \end{aligned}$$

$$\begin{aligned} 8. \quad z + c - 7 &= a \\ z &= a + 7 - c \end{aligned}$$

$$\begin{aligned} 13. \quad z + u + x &= y \\ z &= y - x - u \end{aligned}$$

$$\begin{aligned} 4. \quad c - z + (-10) &= y \\ z &= c - (y - (-10)) \end{aligned}$$

$$\begin{aligned} 9. \quad x - z - u &= v \\ z &= x - (v + u) \end{aligned}$$

$$\begin{aligned} 14. \quad c - z + b &= v \\ z &= c - (v - b) \end{aligned}$$

$$\begin{aligned} 5. \quad z + y - a &= 8 \\ z &= 8 + a - y \end{aligned}$$

$$\begin{aligned} 10. \quad v - (3 - z) &= b \\ z &= 3 - (v - b) \end{aligned}$$

$$\begin{aligned} 15. \quad b - z - x &= v \\ z &= b - (v + x) \end{aligned}$$

## Rewriting Formulas (C)

Solve for  $x$  in terms of the other variables.

1.  $v - (x + z) = a$

6.  $1 = u - (x + v)$

11.  $x - c + 9 = u$

2.  $x + u + b = z$

7.  $3 - x + y = z$

12.  $z = x - u + b$

3.  $x - v + 4 = b$

8.  $y - x + z = b$

13.  $u = x + z - y$

4.  $x + b - z = u$

9.  $u - (v - x) = b$

14.  $x - a + b = z$

5.  $v - (x + u) = y$

10.  $x - v + u = 1$

15.  $x - u - v = b$

## Rewriting Formulas (C) Answers

Solve for  $x$  in terms of the other variables.

$$1. \begin{aligned} v - (x + z) &= a \\ x &= v - a - z \end{aligned}$$

$$6. \begin{aligned} 1 &= u - (x + v) \\ x &= u - 1 - v \end{aligned}$$

$$11. \begin{aligned} x - c + 9 &= u \\ x &= u - 9 + c \end{aligned}$$

$$2. \begin{aligned} x + u + b &= z \\ x &= z - b - u \end{aligned}$$

$$7. \begin{aligned} 3 - x + y &= z \\ x &= 3 - (z - y) \end{aligned}$$

$$12. \begin{aligned} z &= x - u + b \\ x &= z - b + u \end{aligned}$$

$$3. \begin{aligned} x - v + 4 &= b \\ x &= b - 4 + v \end{aligned}$$

$$8. \begin{aligned} y - x + z &= b \\ x &= y - (b - z) \end{aligned}$$

$$13. \begin{aligned} u &= x + z - y \\ x &= u + y - z \end{aligned}$$

$$4. \begin{aligned} x + b - z &= u \\ x &= u + z - b \end{aligned}$$

$$9. \begin{aligned} u - (v - x) &= b \\ x &= v - (u - b) \end{aligned}$$

$$14. \begin{aligned} x - a + b &= z \\ x &= z - b + a \end{aligned}$$

$$5. \begin{aligned} v - (x + u) &= y \\ x &= v - y - u \end{aligned}$$

$$10. \begin{aligned} x - v + u &= 1 \\ x &= 1 - u + v \end{aligned}$$

$$15. \begin{aligned} x - u - v &= b \\ x &= b + v + u \end{aligned}$$

## Rewriting Formulas (D)

Solve for  $v$  in terms of the other variables.

1.  $b = c - v + x$

6.  $b = -8 - (v - y)$

11.  $v + z + x = y$

2.  $y - v + (-1) = z$

7.  $x - (6 - v) = z$

12.  $u = v + y + b$

3.  $x = v - a + 8$

8.  $z - (v + u) = -10$

13.  $u = z - v + x$

4.  $a = v - z + c$

9.  $c - v + b = 6$

14.  $v + y + a = u$

5.  $a = v + y - z$

10.  $x = b - (v + 2)$

15.  $u - (v + (-5)) = a$

## Rewriting Formulas (D) Answers

Solve for  $v$  in terms of the other variables.

$$\begin{aligned} 1. \quad b &= c - v + x \\ v &= c - (b - x) \end{aligned}$$

$$\begin{aligned} 6. \quad b &= -8 - (v - y) \\ v &= -8 - b + y \end{aligned}$$

$$\begin{aligned} 11. \quad v + z + x &= y \\ v &= y - x - z \end{aligned}$$

$$\begin{aligned} 2. \quad y - v + (-1) &= z \\ v &= y - (z - (-1)) \end{aligned}$$

$$\begin{aligned} 7. \quad x - (6 - v) &= z \\ v &= 6 - (x - z) \end{aligned}$$

$$\begin{aligned} 12. \quad u &= v + y + b \\ v &= u - b - y \end{aligned}$$

$$\begin{aligned} 3. \quad x &= v - a + 8 \\ v &= x - 8 + a \end{aligned}$$

$$\begin{aligned} 8. \quad z - (v + u) &= -10 \\ v &= z - (-10) - u \end{aligned}$$

$$\begin{aligned} 13. \quad u &= z - v + x \\ v &= z - (u - x) \end{aligned}$$

$$\begin{aligned} 4. \quad a &= v - z + c \\ v &= a - c + z \end{aligned}$$

$$\begin{aligned} 9. \quad c - v + b &= 6 \\ v &= c - (6 - b) \end{aligned}$$

$$\begin{aligned} 14. \quad v + y + a &= u \\ v &= u - a - y \end{aligned}$$

$$\begin{aligned} 5. \quad a &= v + y - z \\ v &= a + z - y \end{aligned}$$

$$\begin{aligned} 10. \quad x &= b - (v + 2) \\ v &= b - x - 2 \end{aligned}$$

$$\begin{aligned} 15. \quad u - (v + (-5)) &= a \\ v &= u - a - (-5) \end{aligned}$$



## Rewriting Formulas (E)

Solve for  $v$  in terms of the other variables.

1.  $x = b - (v - 2)$

6.  $v - (-6) + c = b$

11.  $a - (v + u) = c$

2.  $a = v + b + 4$

7.  $v + b + a = c$

12.  $v + a + (-10) = x$

3.  $v - c - y = u$

8.  $y - (v - z) = a$

13.  $a = u - (x - v)$

4.  $b = v + x + 7$

9.  $z = v + 4 + a$

14.  $v + a - y = u$

5.  $z - (y - v) = 4$

10.  $y - (v + x) = u$

15.  $v + u + z = b$

## Rewriting Formulas (E) Answers

Solve for  $v$  in terms of the other variables.

$$\begin{aligned} 1. \quad x &= b - (v - 2) \\ v &= b - x + 2 \end{aligned}$$

$$\begin{aligned} 6. \quad v - (-6) + c &= b \\ v &= b - c + (-6) \end{aligned}$$

$$\begin{aligned} 11. \quad a - (v + u) &= c \\ v &= a - c - u \end{aligned}$$

$$\begin{aligned} 2. \quad a &= v + b + 4 \\ v &= a - 4 - b \end{aligned}$$

$$\begin{aligned} 7. \quad v + b + a &= c \\ v &= c - a - b \end{aligned}$$

$$\begin{aligned} 12. \quad v + a + (-10) &= x \\ v &= x - (-10) - a \end{aligned}$$

$$\begin{aligned} 3. \quad v - c - y &= u \\ v &= u + y + c \end{aligned}$$

$$\begin{aligned} 8. \quad y - (v - z) &= a \\ v &= y - a + z \end{aligned}$$

$$\begin{aligned} 13. \quad a &= u - (x - v) \\ v &= x - (u - a) \end{aligned}$$

$$\begin{aligned} 4. \quad b &= v + x + 7 \\ v &= b - 7 - x \end{aligned}$$

$$\begin{aligned} 9. \quad z &= v + 4 + a \\ v &= z - a - 4 \end{aligned}$$

$$\begin{aligned} 14. \quad v + a - y &= u \\ v &= u + y - a \end{aligned}$$

$$\begin{aligned} 5. \quad z - (y - v) &= 4 \\ v &= y - (z - 4) \end{aligned}$$

$$\begin{aligned} 10. \quad y - (v + x) &= u \\ v &= y - u - x \end{aligned}$$

$$\begin{aligned} 15. \quad v + u + z &= b \\ v &= b - z - u \end{aligned}$$

## Rewriting Formulas (F)

Solve for  $y$  in terms of the other variables.

1.  $y + c - z = u$

6.  $7 = y - x + a$

11.  $u - y + b = x$

2.  $z = y - u - x$

7.  $a = v - y + c$

12.  $y + z + u = c$

3.  $y + 2 + x = a$

8.  $z = u - (y + v)$

13.  $y - c + u = b$

4.  $y + x + z = v$

9.  $y + v + z = c$

14.  $c - (y + 2) = x$

5.  $1 - (y + x) = z$

10.  $y - a - b = c$

15.  $y + a - x = b$

## Rewriting Formulas (F) Answers

Solve for  $y$  in terms of the other variables.

$$\begin{aligned} 1. \quad y + c - z &= u \\ y &= u + z - c \end{aligned}$$

$$\begin{aligned} 6. \quad 7 &= y - x + a \\ y &= 7 - a + x \end{aligned}$$

$$\begin{aligned} 11. \quad u - y + b &= x \\ y &= u - (x - b) \end{aligned}$$

$$\begin{aligned} 2. \quad z &= y - u - x \\ y &= z + x + u \end{aligned}$$

$$\begin{aligned} 7. \quad a &= v - y + c \\ y &= v - (a - c) \end{aligned}$$

$$\begin{aligned} 12. \quad y + z + u &= c \\ y &= c - u - z \end{aligned}$$

$$\begin{aligned} 3. \quad y + 2 + x &= a \\ y &= a - x - 2 \end{aligned}$$

$$\begin{aligned} 8. \quad z &= u - (y + v) \\ y &= u - z - v \end{aligned}$$

$$\begin{aligned} 13. \quad y - c + u &= b \\ y &= b - u + c \end{aligned}$$

$$\begin{aligned} 4. \quad y + x + z &= v \\ y &= v - z - x \end{aligned}$$

$$\begin{aligned} 9. \quad y + v + z &= c \\ y &= c - z - v \end{aligned}$$

$$\begin{aligned} 14. \quad c - (y + 2) &= x \\ y &= c - x - 2 \end{aligned}$$

$$\begin{aligned} 5. \quad 1 - (y + x) &= z \\ y &= 1 - z - x \end{aligned}$$

$$\begin{aligned} 10. \quad y - a - b &= c \\ y &= c + b + a \end{aligned}$$

$$\begin{aligned} 15. \quad y + a - x &= b \\ y &= b + x - a \end{aligned}$$

## Rewriting Formulas (G)

Solve for  $a$  in terms of the other variables.

1.  $y = a + z + (-4)$

6.  $-7 = a - v - b$

11.  $x = u - a - b$

2.  $6 - (c - a) = x$

7.  $y - (a + x) = b$

12.  $v = b - (a + z)$

3.  $x = u - (a + z)$

8.  $v = a + u + z$

13.  $u = y - (a - b)$

4.  $z = a - u - y$

9.  $v = a + y - b$

14.  $6 = a + v - u$

5.  $a + (-4) + v = y$

10.  $a - x - c = y$

15.  $c - a - x = 10$

## Rewriting Formulas (G) Answers

Solve for  $a$  in terms of the other variables.

$$1. \begin{aligned} y &= a + z + (-4) \\ a &= y - (-4) - z \end{aligned}$$

$$6. \begin{aligned} -7 &= a - v - b \\ a &= -7 + b + v \end{aligned}$$

$$11. \begin{aligned} x &= u - a - b \\ a &= u - (x + b) \end{aligned}$$

$$2. \begin{aligned} 6 - (c - a) &= x \\ a &= c - (6 - x) \end{aligned}$$

$$7. \begin{aligned} y - (a + x) &= b \\ a &= y - b - x \end{aligned}$$

$$12. \begin{aligned} v &= b - (a + z) \\ a &= b - v - z \end{aligned}$$

$$3. \begin{aligned} x &= u - (a + z) \\ a &= u - x - z \end{aligned}$$

$$8. \begin{aligned} v &= a + u + z \\ a &= v - z - u \end{aligned}$$

$$13. \begin{aligned} u &= y - (a - b) \\ a &= y - u + b \end{aligned}$$

$$4. \begin{aligned} z &= a - u - y \\ a &= z + y + u \end{aligned}$$

$$9. \begin{aligned} v &= a + y - b \\ a &= v + b - y \end{aligned}$$

$$14. \begin{aligned} 6 &= a + v - u \\ a &= 6 + u - v \end{aligned}$$

$$5. \begin{aligned} a + (-4) + v &= y \\ a &= y - v - (-4) \end{aligned}$$

$$10. \begin{aligned} a - x - c &= y \\ a &= y + c + x \end{aligned}$$

$$15. \begin{aligned} c - a - x &= 10 \\ a &= c - (10 + x) \end{aligned}$$

## Rewriting Formulas (H)

Solve for  $y$  in terms of the other variables.

1.  $b = a - (y + (-6))$

6.  $v = y + b - 8$

11.  $v - y - x = 4$

2.  $u = v - (y + c)$

7.  $-8 = a - y + u$

12.  $z - (y - b) = u$

3.  $y + x + 9 = z$

8.  $a = c - (y - x)$

13.  $y + (-2) + b = v$

4.  $z = y + b + c$

9.  $y + c + x = z$

14.  $a - (y + z) = -6$

5.  $y - c + x = z$

10.  $y - 5 + c = x$

15.  $c - (b - y) = v$

## Rewriting Formulas (H) Answers

Solve for  $y$  in terms of the other variables.

$$\begin{aligned} 1. \quad b &= a - (y + (-6)) \\ y &= a - b - (-6) \end{aligned}$$

$$\begin{aligned} 6. \quad v &= y + b - 8 \\ y &= v + 8 - b \end{aligned}$$

$$\begin{aligned} 11. \quad v - y - x &= 4 \\ y &= v - (4 + x) \end{aligned}$$

$$\begin{aligned} 2. \quad u &= v - (y + c) \\ y &= v - u - c \end{aligned}$$

$$\begin{aligned} 7. \quad -8 &= a - y + u \\ y &= a - (-8 - u) \end{aligned}$$

$$\begin{aligned} 12. \quad z - (y - b) &= u \\ y &= z - u + b \end{aligned}$$

$$\begin{aligned} 3. \quad y + x + 9 &= z \\ y &= z - 9 - x \end{aligned}$$

$$\begin{aligned} 8. \quad a &= c - (y - x) \\ y &= c - a + x \end{aligned}$$

$$\begin{aligned} 13. \quad y + (-2) + b &= v \\ y &= v - b - (-2) \end{aligned}$$

$$\begin{aligned} 4. \quad z &= y + b + c \\ y &= z - c - b \end{aligned}$$

$$\begin{aligned} 9. \quad y + c + x &= z \\ y &= z - x - c \end{aligned}$$

$$\begin{aligned} 14. \quad a - (y + z) &= -6 \\ y &= a - (-6) - z \end{aligned}$$

$$\begin{aligned} 5. \quad y - c + x &= z \\ y &= z - x + c \end{aligned}$$

$$\begin{aligned} 10. \quad y - 5 + c &= x \\ y &= x - c + 5 \end{aligned}$$

$$\begin{aligned} 15. \quad c - (b - y) &= v \\ y &= b - (c - v) \end{aligned}$$



## Rewriting Formulas (I)

Solve for  $a$  in terms of the other variables.

1.  $a + u + y = b$

6.  $-2 = z - (a + v)$

11.  $y - (a + b) = 10$

2.  $b = a + y - z$

7.  $y - (a + c) = v$

12.  $b = a + v + u$

3.  $v - (u - a) = c$

8.  $6 = a - c + u$

13.  $u = a - b + z$

4.  $y = a - 1 + x$

9.  $9 = a + u + y$

14.  $z = a + c + b$

5.  $c = a + 9 + x$

10.  $a + c + b = -4$

15.  $x = b - a + v$

## Rewriting Formulas (I) Answers

Solve for  $a$  in terms of the other variables.

1.  $a + u + y = b$   
 $a = b - y - u$

6.  $-2 = z - (a + v)$   
 $a = z - (-2) - v$

11.  $y - (a + b) = 10$   
 $a = y - 10 - b$

2.  $b = a + y - z$   
 $a = b + z - y$

7.  $y - (a + c) = v$   
 $a = y - v - c$

12.  $b = a + v + u$   
 $a = b - u - v$

3.  $v - (u - a) = c$   
 $a = u - (v - c)$

8.  $6 = a - c + u$   
 $a = 6 - u + c$

13.  $u = a - b + z$   
 $a = u - z + b$

4.  $y = a - 1 + x$   
 $a = y - x + 1$

9.  $9 = a + u + y$   
 $a = 9 - y - u$

14.  $z = a + c + b$   
 $a = z - b - c$

5.  $c = a + 9 + x$   
 $a = c - x - 9$

10.  $a + c + b = -4$   
 $a = -4 - b - c$

15.  $x = b - a + v$   
 $a = b - (x - v)$

## Rewriting Formulas (J)

Solve for  $v$  in terms of the other variables.

1.  $y - (v + b) = x$

6.  $v + (-3) - b = z$

11.  $v - 4 + c = u$

2.  $1 - v - c = a$

7.  $v + b + 9 = z$

12.  $1 - v + b = y$

3.  $v + a - z = 3$

8.  $v + 4 - a = u$

13.  $a = c - (v - y)$

4.  $v + 5 + x = y$

9.  $v + c + 8 = a$

14.  $v + a + y = u$

5.  $6 = u - (v + x)$

10.  $c - v - 6 = a$

15.  $v + 5 + b = c$

## Rewriting Formulas (J) Answers

Solve for  $v$  in terms of the other variables.

$$\begin{aligned} 1. \quad y - (v + b) &= x \\ v &= y - x - b \end{aligned}$$

$$\begin{aligned} 6. \quad v + (-3) - b &= z \\ v &= z + b - (-3) \end{aligned}$$

$$\begin{aligned} 11. \quad v - 4 + c &= u \\ v &= u - c + 4 \end{aligned}$$

$$\begin{aligned} 2. \quad 1 - v - c &= a \\ v &= 1 - (a + c) \end{aligned}$$

$$\begin{aligned} 7. \quad v + b + 9 &= z \\ v &= z - 9 - b \end{aligned}$$

$$\begin{aligned} 12. \quad 1 - v + b &= y \\ v &= 1 - (y - b) \end{aligned}$$

$$\begin{aligned} 3. \quad v + a - z &= 3 \\ v &= 3 + z - a \end{aligned}$$

$$\begin{aligned} 8. \quad v + 4 - a &= u \\ v &= u + a - 4 \end{aligned}$$

$$\begin{aligned} 13. \quad a &= c - (v - y) \\ v &= c - a + y \end{aligned}$$

$$\begin{aligned} 4. \quad v + 5 + x &= y \\ v &= y - x - 5 \end{aligned}$$

$$\begin{aligned} 9. \quad v + c + 8 &= a \\ v &= a - 8 - c \end{aligned}$$

$$\begin{aligned} 14. \quad v + a + y &= u \\ v &= u - y - a \end{aligned}$$

$$\begin{aligned} 5. \quad 6 &= u - (v + x) \\ v &= u - 6 - x \end{aligned}$$

$$\begin{aligned} 10. \quad c - v - 6 &= a \\ v &= c - (a + 6) \end{aligned}$$

$$\begin{aligned} 15. \quad v + 5 + b &= c \\ v &= c - b - 5 \end{aligned}$$