

## Evaluating Variable Expressions Answer Key

1a.  $-\frac{16}{11}$  1b. 14

2a.  $\frac{112}{576} = \frac{7}{36}$  2b. -6128487

3a. 103823000 3b. -15

4a. -3 4b. -26

5a.  $\frac{161}{10}$  5b. 1889568

6a. -36 6b. 8

7a.  $-\frac{14}{12} = -\frac{7}{6}$  7b.  $-\frac{11}{13}$

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## Evaluating Expressions (A) Answers

Evaluate each expression using the values given.

$$\begin{aligned} 1. & b \cdot (9 - b) \cdot b \\ & (b = 9) \\ & = 0 \end{aligned}$$

$$\begin{aligned} 6. & (z - z \div 6) \cdot 6 \\ & (z = 10) \\ & = 50 \end{aligned}$$

$$\begin{aligned} 11. & u \div (a \cdot a^2) \\ & (a = 1, u = 10) \\ & = 10 \end{aligned}$$

$$\begin{aligned} 2. & u - (u - u)^3 \\ & (u = 10) \\ & = 10 \end{aligned}$$

$$\begin{aligned} 7. & b^4 \div b \cdot 10 \\ & (b = 1) \\ & = 10 \end{aligned}$$

$$\begin{aligned} 12. & 6 \div 3 + y + 8 \\ & (y = 7) \\ & = 17 \end{aligned}$$

$$\begin{aligned} 3. & (y + y - y) \div y \\ & (y = 2) \\ & = 1 \end{aligned}$$

$$\begin{aligned} 8. & x + (5 - 1)^2 \\ & (x = 1) \\ & = 17 \end{aligned}$$

$$\begin{aligned} 13. & 9 - 6 \div b \div 2 \\ & (b = 8) \\ & = \frac{69}{8} \end{aligned}$$

$$\begin{aligned} 4. & (5 \div (x + 4))^3 \\ & (x = 1) \\ & = 1 \end{aligned}$$

$$\begin{aligned} 9. & a^3 \div a^2 \\ & (a = 2) \\ & = 2 \end{aligned}$$

$$\begin{aligned} 14. & ax \div (6a) \\ & (a = 9, x = 3) \\ & = \frac{1}{2} \end{aligned}$$

$$\begin{aligned} 5. & (c - (c - c)) \cdot 2 \\ & (c = 5) \\ & = 10 \end{aligned}$$

$$\begin{aligned} 10. & 8 + 1 + 4 + u \\ & (u = 1) \\ & = 14 \end{aligned}$$

$$\begin{aligned} 15. & a + 9 - 7 \div a \\ & (a = 2) \\ & = \frac{15}{2} \end{aligned}$$

## Evaluating Expressions (A) Answers

Evaluate each expression using the values given.

$$\begin{aligned} 1. & (u - u \div (8 - x)) \cdot 7 - u \\ & (x = 4, u = 6) \\ & = \frac{51}{2} \end{aligned}$$

$$\begin{aligned} 6. & (2 - v) \div (10 \div y \cdot 3) \div 5 \\ & (y = 8, v = 2) \\ & = 0 \end{aligned}$$

$$\begin{aligned} 2. & b + 3 + 2 - z + 8 - b \\ & (b = 8, z = 1) \\ & = 12 \end{aligned}$$

$$\begin{aligned} 7. & v \cdot v - y + cy \cdot 5 \\ & (y = 1, c = 7, v = 3) \\ & = 43 \end{aligned}$$

$$\begin{aligned} 3. & 3 \div 1 (u + 1 \div 6 + a) \\ & (a = 6, u = 3) \\ & = \frac{55}{2} \end{aligned}$$

$$\begin{aligned} 8. & (z - 7) \div (9 - (4 - 3) \cdot 7) \\ & (z = 10) \\ & = \frac{3}{2} \end{aligned}$$

$$\begin{aligned} 4. & (x - c) \div (4 \div (4 \cdot 3)) - 4 \\ & (x = 9, c = 5) \\ & = 8 \end{aligned}$$

$$\begin{aligned} 9. & x - 7 + y(x - (y - 7)) \\ & (y = 7, x = 7) \\ & = 49 \end{aligned}$$

$$\begin{aligned} 5. & 10 \div (6 \div (a \cdot a)) \cdot a \div 9 \\ & (a = 3) \\ & = 5 \end{aligned}$$

$$\begin{aligned} 10. & (x - 6 \div 2) \div (c \cdot c) \cdot 2 \\ & (x = 8, c = 6) \\ & = \frac{5}{18} \end{aligned}$$

## Evaluating Expressions (A) Answers

Evaluate each expression using the values given.

$$\begin{aligned} 1. & 1 \div z \cdot y \\ & (y = 4, z = 1) \\ & = 4 \end{aligned}$$

$$\begin{aligned} 6. & c - (7 - c) \\ & (c = 5) \\ & = 3 \end{aligned}$$

$$\begin{aligned} 11. & y \div 4 + 3 \\ & (y = 1) \\ & = \frac{13}{4} \end{aligned}$$

$$\begin{aligned} 2. & 10(x - b) \\ & (x = 8, b = 3) \\ & = 50 \end{aligned}$$

$$\begin{aligned} 7. & (2 - a)^2 \\ & (a = 1) \\ & = 1 \end{aligned}$$

$$\begin{aligned} 12. & 3 \div y \cdot 9 \\ & (y = 9) \\ & = 3 \end{aligned}$$

$$\begin{aligned} 3. & z + 2 + v \\ & (z = 6, v = 8) \\ & = 16 \end{aligned}$$

$$\begin{aligned} 8. & c - (8 - b) \\ & (c = 8, b = 8) \\ & = 8 \end{aligned}$$

$$\begin{aligned} 13. & x - (7 - 4) \\ & (x = 9) \\ & = 6 \end{aligned}$$

$$\begin{aligned} 4. & 8 \cdot 6 \div c \\ & (c = 6) \\ & = 8 \end{aligned}$$

$$\begin{aligned} 9. & 4 - (y - 1) \\ & (y = 4) \\ & = 1 \end{aligned}$$

$$\begin{aligned} 14. & z + 3 \cdot 4 \\ & (z = 2) \\ & = 14 \end{aligned}$$

$$\begin{aligned} 5. & z \cdot 4 \div x \\ & (x = 8, z = 6) \\ & = 3 \end{aligned}$$

$$\begin{aligned} 10. & a \div 10 + a \\ & (a = 8) \\ & = \frac{44}{5} \end{aligned}$$

$$\begin{aligned} 15. & x + 4 \cdot 10 \\ & (x = 6) \\ & = 46 \end{aligned}$$

## 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 (A) Answers

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

$$1. \begin{aligned} uc &= v \\ u &= \frac{v}{c} \end{aligned}$$

$$5. \begin{aligned} \frac{a}{u} &= v \\ u &= \frac{a}{v} \end{aligned}$$

$$9. \begin{aligned} 3u &= \frac{v}{3} \\ u &= \frac{v}{9} \end{aligned}$$

$$2. \begin{aligned} y &= -6u \\ u &= -\frac{y}{6} \end{aligned}$$

$$6. \begin{aligned} \frac{b}{u} &= c \\ u &= \frac{b}{c} \end{aligned}$$

$$10. \begin{aligned} uy &= a \\ u &= \frac{a}{y} \end{aligned}$$

$$3. \begin{aligned} \frac{y}{u} &= a \\ u &= \frac{y}{a} \end{aligned}$$

$$7. \begin{aligned} \frac{u}{z} &= y \\ u &= yz \end{aligned}$$

$$11. \begin{aligned} v &= \frac{y}{u} \\ u &= \frac{y}{v} \end{aligned}$$

$$4. \begin{aligned} 2 &= \frac{u}{y} \\ u &= 2y \end{aligned}$$

$$8. \begin{aligned} -3u &= z \\ u &= -\frac{z}{3} \end{aligned}$$

$$12. \begin{aligned} uy &= -10 \\ u &= -\frac{10}{y} \end{aligned}$$