

Simplification d'Expressions (A)

Simplifiez chaque expression.

1. $-4 + y^2 + y - 1 + 8ay$

6. $4b + 9 + 1 + y^2 + b$

2. $1 + v + 1 + u + 1$

7. $-3c^2 \cdot (-1) \cdot (-cz) + z \cdot (-1)$

3. $4 \cdot (-1) + a - 1 + av$

8. $z^2 + a + 1 + 1 - a^2$

4. $\frac{18y}{-2} + 9u + \frac{12uy}{2y}$

9. $\frac{30c}{10c} + 6a \cdot 9 \cdot 3$

5. $-5v - v^2 + 8 - v + c$

10. $-c + u^2 + cu - 1 + 1$

Simplification d'Expressions (A) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. & -4 + y^2 + y - 1 + 8ay \\ & = y^2 + 8ay + y - 5 \end{aligned}$$

$$\begin{aligned} 6. & 4b + 9 + 1 + y^2 + b \\ & = y^2 + 5b + 10 \end{aligned}$$

$$\begin{aligned} 2. & 1 + v + 1 + u + 1 \\ & = v + u + 3 \end{aligned}$$

$$\begin{aligned} 7. & -3c^2 \cdot (-1) \cdot (-cz) + z \cdot (-1) \\ & = -3c^3z - z \end{aligned}$$

$$\begin{aligned} 3. & 4 \cdot (-1) + a - 1 + av \\ & = av + a - 5 \end{aligned}$$

$$\begin{aligned} 8. & z^2 + a + 1 + 1 - a^2 \\ & = z^2 - a^2 + a + 2 \end{aligned}$$

$$\begin{aligned} 4. & \frac{18y}{-2} + 9u + \frac{12uy}{2y} \\ & = -9y + 15u \end{aligned}$$

$$\begin{aligned} 9. & \frac{30c}{10c} + 6a \cdot 9 \cdot 3 \\ & = 162a + 3 \end{aligned}$$

$$\begin{aligned} 5. & -5v - v^2 + 8 - v + c \\ & = -v^2 - 6v + c + 8 \end{aligned}$$

$$\begin{aligned} 10. & -c + u^2 + cu - 1 + 1 \\ & = u^2 + cu - c \end{aligned}$$

Simplification d'Expressions (B)

Simplifiez chaque expression.

1. $3 + 4vz + 5v \cdot vz - 5z$

6. $-x + 8 - x^2 + 1 + 7x$

2. $\frac{3cv^2}{-1 \cdot (-3cv)} + \frac{6c^2}{2}$

7. $4 \cdot 9v \cdot v + b + 5$

3. $-v^2 - \frac{vz^2}{z} + \frac{v^2z^2}{z^2}$

8. $av - 10 + 7a + \frac{av}{av}$

4. $-u \cdot 3 \cdot (-5) + 1 + 1$

9. $10u \cdot \frac{48u^2}{8u^2} \cdot u \cdot 6u^2$

5. $9ab \cdot (-10ab) \cdot (-ab) \cdot \left(-\frac{15a^4}{5a^2}\right)$

10. $-6cx \cdot cx \cdot cx - \frac{x^4}{-x^2}$

Simplification d'Expressions (B) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. \quad & 3 + 4vz + 5v \cdot vz - 5z \\ & = 5v^2z + 4vz - 5z + 3 \end{aligned}$$

$$\begin{aligned} 6. \quad & -x + 8 - x^2 + 1 + 7x \\ & = -x^2 + 6x + 9 \end{aligned}$$

$$\begin{aligned} 2. \quad & \frac{3cv^2}{-1 \cdot (-3cv)} + \frac{6c^2}{2} \\ & = 3c^2 + v \end{aligned}$$

$$\begin{aligned} 7. \quad & 4 \cdot 9v \cdot v + b + 5 \\ & = 36v^2 + b + 5 \end{aligned}$$

$$\begin{aligned} 3. \quad & -v^2 - \frac{vz^2}{z} + \frac{v^2z^2}{z^2} \\ & = -vz \end{aligned}$$

$$\begin{aligned} 8. \quad & av - 10 + 7a + \frac{av}{av} \\ & = av + 7a - 9 \end{aligned}$$

$$\begin{aligned} 4. \quad & -u \cdot 3 \cdot (-5) + 1 + 1 \\ & = 15u + 2 \end{aligned}$$

$$\begin{aligned} 9. \quad & 10u \cdot \frac{48u^2}{8u^2} \cdot u \cdot 6u^2 \\ & = 360u^4 \end{aligned}$$

$$\begin{aligned} 5. \quad & 9ab \cdot (-10ab) \cdot (-ab) \cdot \left(-\frac{15a^4}{5a^2}\right) \\ & = -270a^5b^3 \end{aligned}$$

$$\begin{aligned} 10. \quad & -6cx \cdot cx \cdot cx - \frac{x^4}{-x^2} \\ & = -6c^3x^3 + x^2 \end{aligned}$$

Simplification d'Expressions (C)

Simplifiez chaque expression.

1. $\frac{8}{8} \cdot 5 \cdot (-3b^2) \cdot b^2$

6. $2y \cdot (-1) - xy - \frac{10}{-1}$

2. $5y^2 - 9y \cdot (-y) \cdot (-3yz) + 5z^2$

7. $10x - 1 + 1 - 8x + 8$

3. $2 + 4cu - u - \frac{10c}{-c}$

8. $bz - 6bz - bz + bz + 5b$

4. $7 - u \cdot uz + uz + uz$

9. $-5 \cdot \left(-\frac{3ay}{y}\right) + \frac{10}{-10}$

5. $\frac{5u}{5u} + u + x - x^2$

10. $-\frac{6u^2}{-u} - 4x^2 + \frac{10u^2}{10u}$

Simplification d'Expressions (C) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. \quad & \frac{8}{8} \cdot 5 \cdot (-3b^2) \cdot b^2 \\ & = -15b^4 \end{aligned}$$

$$\begin{aligned} 6. \quad & 2y \cdot (-1) - xy - \frac{10}{-1} \\ & = -xy - 2y + 10 \end{aligned}$$

$$\begin{aligned} 2. \quad & 5y^2 - 9y \cdot (-y) \cdot (-3yz) + 5z^2 \\ & = -27y^3z + 5y^2 + 5z^2 \end{aligned}$$

$$\begin{aligned} 7. \quad & 10x - 1 + 1 - 8x + 8 \\ & = 2x + 8 \end{aligned}$$

$$\begin{aligned} 3. \quad & 2 + 4cu - u - \frac{10c}{-c} \\ & = 4cu - u + 12 \end{aligned}$$

$$\begin{aligned} 8. \quad & bz - 6bz - bz + bz + 5b \\ & = -5bz + 5b \end{aligned}$$

$$\begin{aligned} 4. \quad & 7 - u \cdot uz + uz + uz \\ & = -u^2z + 2uz + 7 \end{aligned}$$

$$\begin{aligned} 9. \quad & -5 \cdot \left(-\frac{3ay}{y} \right) + \frac{10}{-10} \\ & = 15a - 1 \end{aligned}$$

$$\begin{aligned} 5. \quad & \frac{5u}{5u} + u + x - x^2 \\ & = -x^2 + u + x + 1 \end{aligned}$$

$$\begin{aligned} 10. \quad & -\frac{6u^2}{-u} - 4x^2 + \frac{10u^2}{10u} \\ & = -4x^2 + 7u \end{aligned}$$

Simplification d'Expressions (D)

Simplifiez chaque expression.

1. $4ux \cdot (-u^2) - 5ux - u^2 \cdot 7$

6. $y^2 - 9z^2 + 6 + y^2 + 6z$

2. $z + z^2 + 10b + \frac{b}{b}$

7. $\frac{8by^3}{-by} - 5 + 6b - b$

3. $-c^2 - 8c^2 + 1 + c + 9c^2$

8. $z^2 + \frac{a^3}{a^2} - 2 + 1$

4. $7y^2 + 3vy + vy + v^2 + y$

9. $\frac{bv^2}{v^2} \cdot 9 \cdot v + v$

5. $-u + v^2 + 6 \cdot (-uv) + 4$

10. $\frac{z}{z} + \frac{10z^3}{z^2} - z^2$

Simplification d'Expressions (D) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. & 4ux \cdot (-u^2) - 5ux - u^2 \cdot 7 \\ & = -4u^3x - 5ux - 7u^2 \end{aligned}$$

$$\begin{aligned} 6. & y^2 - 9z^2 + 6 + y^2 + 6z \\ & = 2y^2 - 9z^2 + 6z + 6 \end{aligned}$$

$$\begin{aligned} 2. & z + z^2 + 10b + \frac{b}{b} \\ & = z^2 + z + 10b + 1 \end{aligned}$$

$$\begin{aligned} 7. & \frac{8by^3}{-by} - 5 + 6b - b \\ & = -8y^2 + 5b - 5 \end{aligned}$$

$$\begin{aligned} 3. & -c^2 - 8c^2 + 1 + c + 9c^2 \\ & = c + 1 \end{aligned}$$

$$\begin{aligned} 8. & z^2 + \frac{a^3}{a^2} - 2 + 1 \\ & = z^2 + a - 1 \end{aligned}$$

$$\begin{aligned} 4. & 7y^2 + 3vy + vy + v^2 + y \\ & = 7y^2 + 4vy + v^2 + y \end{aligned}$$

$$\begin{aligned} 9. & \frac{bv^2}{v^2} \cdot 9 \cdot v + v \\ & = 9bv + v \end{aligned}$$

$$\begin{aligned} 5. & -u + v^2 + 6 \cdot (-uv) + 4 \\ & = v^2 - 6uv - u + 4 \end{aligned}$$

$$\begin{aligned} 10. & \frac{z}{z} + \frac{10z^3}{z^2} - z^2 \\ & = -z^2 + 10z + 1 \end{aligned}$$

Simplification d'Expressions (E)

Simplifiez chaque expression.

1. $-\frac{b^2z}{-z} + 1 - 3 - 8z$

6. $-1 - 1 + 9c \cdot c - z^2$

2. $c + b \cdot c \cdot (-4) \cdot b$

7. $1 + 7ay + 1 + a + 7y$

3. $\frac{2z^4}{2z^2} + z^2 \cdot 4 - z^2$

8. $4bc \cdot c \cdot 3bc - \frac{b}{-b}$

4. $z \cdot \left(-\frac{56c^3z}{7cz \cdot (-c) \cdot (-c)} \right)$

9. $-3 + a + x - 6 \cdot 4x$

5. $3u - \frac{5b^3}{b^2} + \frac{bu}{-1}$

10. $u + 8u^2 \cdot (-u) + u^2 - u^2$

Simplification d'Expressions (E) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. \quad & -\frac{b^2z}{-z} + 1 - 3 - 8z \\ & = b^2 - 8z - 2 \end{aligned}$$

$$\begin{aligned} 6. \quad & -1 - 1 + 9c \cdot c - z^2 \\ & = 9c^2 - z^2 - 2 \end{aligned}$$

$$\begin{aligned} 2. \quad & c + b \cdot c \cdot (-4) \cdot b \\ & = -4b^2c + c \end{aligned}$$

$$\begin{aligned} 7. \quad & 1 + 7ay + 1 + a + 7y \\ & = 7ay + a + 7y + 2 \end{aligned}$$

$$\begin{aligned} 3. \quad & \frac{2z^4}{2z^2} + z^2 \cdot 4 - z^2 \\ & = 4z^2 \end{aligned}$$

$$\begin{aligned} 8. \quad & 4bc \cdot c \cdot 3bc - \frac{b}{-b} \\ & = 12b^2c^3 + 1 \end{aligned}$$

$$\begin{aligned} 4. \quad & z \cdot \left(-\frac{56c^3z}{7cz \cdot (-c) \cdot (-c)} \right) \\ & = -8z \end{aligned}$$

$$\begin{aligned} 9. \quad & -3 + a + x - 6 \cdot 4x \\ & = a - 23x - 3 \end{aligned}$$

$$\begin{aligned} 5. \quad & 3u - \frac{5b^3}{b^2} + \frac{bu}{-1} \\ & = -bu + 3u - 5b \end{aligned}$$

$$\begin{aligned} 10. \quad & u + 8u^2 \cdot (-u) + u^2 - u^2 \\ & = -8u^3 + u \end{aligned}$$

Simplification d'Expressions (F)

Simplifiez chaque expression.

1. $2v - 6a + a + a + 10$

6. $\frac{7b}{7b} - \frac{3bc}{-3c} \cdot c$

2. $-1 + 1 + 3u + u - 7u^2$

7. $1 - 3 + \frac{10a^4}{10a^2} + 4a$

3. $-10x + x^2 + u + 5x + u^2$

8. $-7vy + y^2 - v^2 + vy + 2v^2$

4. $\frac{2vz}{2v} + 8v + \frac{5vz}{-v}$

9. $6a + 1 + 5z + z - 1$

5. $1 - b^2 + 9 + 2b + b$

10. $-\frac{20}{5} - \frac{4x^2}{-4x} - 6ux$

Simplification d'Expressions (F) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. & 2v - 6a + a + a + 10 \\ & = 2v - 4a + 10 \end{aligned}$$

$$\begin{aligned} 6. & \frac{7b}{7b} - \frac{3bc}{-3c} \cdot c \\ & = bc + 1 \end{aligned}$$

$$\begin{aligned} 2. & -1 + 1 + 3u + u - 7u^2 \\ & = -7u^2 + 4u \end{aligned}$$

$$\begin{aligned} 7. & 1 - 3 + \frac{10a^4}{10a^2} + 4a \\ & = a^2 + 4a - 2 \end{aligned}$$

$$\begin{aligned} 3. & -10x + x^2 + u + 5x + u^2 \\ & = x^2 + u^2 - 5x + u \end{aligned}$$

$$\begin{aligned} 8. & -7vy + y^2 - v^2 + vy + 2v^2 \\ & = -6vy + y^2 + v^2 \end{aligned}$$

$$\begin{aligned} 4. & \frac{2vz}{2v} + 8v + \frac{5vz}{-v} \\ & = -4z + 8v \end{aligned}$$

$$\begin{aligned} 9. & 6a + 1 + 5z + z - 1 \\ & = 6a + 6z \end{aligned}$$

$$\begin{aligned} 5. & 1 - b^2 + 9 + 2b + b \\ & = -b^2 + 3b + 10 \end{aligned}$$

$$\begin{aligned} 10. & -\frac{20}{5} - \frac{4x^2}{-4x} - 6ux \\ & = -6ux + x - 4 \end{aligned}$$

Simplification d'Expressions (G)

Simplifiez chaque expression.

1. $cx \cdot 3 + 5 + c \cdot 8$

6. $\frac{35by}{5by} - \frac{b^4}{-b \cdot (-b^2)}$

2. $1 + u^2 - \frac{u}{-u} + u$

7. $-ab \cdot (-3a) \cdot (-1) \cdot 7 \cdot ab$

3. $-\frac{50cx}{5x} + 1 - 4x + x$

8. $\frac{7v^2z^2}{7v^2 \cdot (-1) \cdot (-z)} \cdot (-v^2)$

4. $v - 4v^2 + v - 8vz + 1$

9. $10b^2 + b + 10b + b^2 + 5b$

5. $-1 + z - \frac{7u}{7u} - 2uz$

10. $8by + 9by + 3by + 7 - 3y$

Simplification d'Expressions (G) Solutions

Simplifiez chaque expression.

$$1. \quad cx \cdot 3 + 5 + c \cdot 8 \\ = 3cx + 8c + 5$$

$$6. \quad \frac{35by}{5by} - \frac{b^4}{-b \cdot (-b^2)} \\ = -b + 7$$

$$2. \quad 1 + u^2 - \frac{u}{-u} + u \\ = u^2 + u + 2$$

$$7. \quad -ab \cdot (-3a) \cdot (-1) \cdot 7 \cdot ab \\ = -21a^3b^2$$

$$3. \quad -\frac{50cx}{5x} + 1 - 4x + x \\ = -10c - 3x + 1$$

$$8. \quad \frac{7v^2z^2}{7v^2 \cdot (-1) \cdot (-z)} \cdot (-v^2) \\ = -v^2z$$

$$4. \quad v - 4v^2 + v - 8vz + 1 \\ = -4v^2 - 8vz + 2v + 1$$

$$9. \quad 10b^2 + b + 10b + b^2 + 5b \\ = 11b^2 + 16b$$

$$5. \quad -1 + z - \frac{7u}{7u} - 2uz \\ = -2uz + z - 2$$

$$10. \quad 8by + 9by + 3by + 7 - 3y \\ = 20by - 3y + 7$$

Simplification d'Expressions (H)

Simplifiez chaque expression.

1. $10z + 3z + \frac{z^2}{z} + 4a$

6. $-u - 10u + u^2 + 10u + 4x$

2. $-6 - bu - b^2 + 8 \cdot 9b$

7. $-\frac{48y^2}{-6} - 10 + \frac{4x^2}{-1}$

3. $2 + 9y^2 + 2 + a + y^2$

8. $-10b^2 \cdot 6 \cdot 7b \cdot (-1) \cdot 6b$

4. $z \cdot 3v^2 \cdot 3z^2 \cdot (-1) \cdot v$

9. $y \cdot 9z \cdot 4z^2 - \frac{3z^2}{3z}$

5. $\frac{v}{v} - 1 \cdot (-y^2) \cdot (-vy)$

10. $x + 1 + 6c + \frac{cx}{cx}$

Simplification d'Expressions (H) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. \quad & 10z + 3z + \frac{z^2}{z} + 4a \\ & = 14z + 4a \end{aligned}$$

$$\begin{aligned} 6. \quad & -u - 10u + u^2 + 10u + 4x \\ & = u^2 - u + 4x \end{aligned}$$

$$\begin{aligned} 2. \quad & -6 - bu - b^2 + 8 \cdot 9b \\ & = -bu - b^2 + 72b - 6 \end{aligned}$$

$$\begin{aligned} 7. \quad & -\frac{48y^2}{-6} - 10 + \frac{4x^2}{-1} \\ & = 8y^2 - 4x^2 - 10 \end{aligned}$$

$$\begin{aligned} 3. \quad & 2 + 9y^2 + 2 + a + y^2 \\ & = 10y^2 + a + 4 \end{aligned}$$

$$\begin{aligned} 8. \quad & -10b^2 \cdot 6 \cdot 7b \cdot (-1) \cdot 6b \\ & = 2520b^4 \end{aligned}$$

$$\begin{aligned} 4. \quad & z \cdot 3v^2 \cdot 3z^2 \cdot (-1) \cdot v \\ & = -9v^3z^3 \end{aligned}$$

$$\begin{aligned} 9. \quad & y \cdot 9z \cdot 4z^2 - \frac{3z^2}{3z} \\ & = 36yz^3 - z \end{aligned}$$

$$\begin{aligned} 5. \quad & \frac{v}{v} - 1 \cdot (-y^2) \cdot (-vy) \\ & = -vy^3 + 1 \end{aligned}$$

$$\begin{aligned} 10. \quad & x + 1 + 6c + \frac{cx}{cx} \\ & = x + 6c + 2 \end{aligned}$$

Simplification d'Expressions (I)

Simplifiez chaque expression.

1. $az - 1 + 5z^2 + 2az + 1$

6. $-1 + 5b^2 - y + \frac{y^3}{y}$

2. $-6 \cdot v^2 \cdot 8 + \frac{2av^2}{2av}$

7. $-10x \cdot 6xy \cdot (-10x) \cdot 2y^2 \cdot x$

3. $-y + by + b - by \cdot (-1)$

8. $-cx + \frac{2x^2}{-1} + 6 + 1$

4. $-7 + 7x + 6 - 1 - x$

9. $\frac{245b^2z^4}{-5 \cdot 7bz \cdot z^2 \cdot (-b)}$

5. $2y - 1 + 4y + 10 \cdot 7y$

10. $2v^2 - bv + 3b + 2 + bv$

Simplification d'Expressions (I) Solutions

Simplifiez chaque expression.

$$1. \quad az - 1 + 5z^2 + 2az + 1 \\ = 3az + 5z^2$$

$$6. \quad -1 + 5b^2 - y + \frac{y^3}{y} \\ = 5b^2 + y^2 - y - 1$$

$$2. \quad -6 \cdot v^2 \cdot 8 + \frac{2av^2}{2av} \\ = -48v^2 + v$$

$$7. \quad -10x \cdot 6xy \cdot (-10x) \cdot 2y^2 \cdot x \\ = 1200x^4y^3$$

$$3. \quad -y + by + b - by \cdot (-1) \\ = 2by - y + b$$

$$8. \quad -cx + \frac{2x^2}{-1} + 6 + 1 \\ = -cx - 2x^2 + 7$$

$$4. \quad -7 + 7x + 6 - 1 - x \\ = 6x - 2$$

$$9. \quad \frac{245b^2z^4}{-5 \cdot 7bz \cdot z^2 \cdot (-b)} \\ = 7z$$

$$5. \quad 2y - 1 + 4y + 10 \cdot 7y \\ = 76y - 1$$

$$10. \quad 2v^2 - bv + 3b + 2 + bv \\ = 2v^2 + 3b + 2$$

Simplification d'Expressions (J)

Simplifiez chaque expression.

1. $7av + a - 6 - \frac{av^2}{v^2}$

6. $yz + 5 + 2z^2 + \frac{y^2}{y^2}$

2. $3 \cdot (-u) + 10 \cdot (-uz) - z$

7. $\frac{cu^2}{-c} - \frac{1}{-1} \cdot u$

3. $-1 \cdot (-x^2) - x + x^2 + 1$

8. $z^2 + \frac{9x^2z}{9xz} \cdot z - z$

4. $-\frac{u}{-1} + 5 - 1 - 6u^2$

9. $9z^2 \cdot 8z \cdot 2b^2 + \frac{8bz^2}{8z^2}$

5. $4c^2 + \frac{5c^2x}{5cx} + 4x^2 + x$

10. $-\frac{10y^2}{10y^2} - y^2 + 4y + 9y^2$

Simplification d'Expressions (J) Solutions

Simplifiez chaque expression.

$$\begin{aligned} 1. \quad & 7av + a - 6 - \frac{av^2}{v^2} \\ & = 7av - 6 \end{aligned}$$

$$\begin{aligned} 6. \quad & yz + 5 + 2z^2 + \frac{y^2}{y^2} \\ & = yz + 2z^2 + 6 \end{aligned}$$

$$\begin{aligned} 2. \quad & 3 \cdot (-u) + 10 \cdot (-uz) - z \\ & = -10uz - 3u - z \end{aligned}$$

$$\begin{aligned} 7. \quad & \frac{cu^2}{-c} - \frac{1}{-1} \cdot u \\ & = -u^2 + u \end{aligned}$$

$$\begin{aligned} 3. \quad & -1 \cdot (-x^2) - x + x^2 + 1 \\ & = 2x^2 - x + 1 \end{aligned}$$

$$\begin{aligned} 8. \quad & z^2 + \frac{9x^2z}{9xz} \cdot z - z \\ & = z^2 + xz - z \end{aligned}$$

$$\begin{aligned} 4. \quad & -\frac{u}{-1} + 5 - 1 - 6u^2 \\ & = -6u^2 + u + 4 \end{aligned}$$

$$\begin{aligned} 9. \quad & 9z^2 \cdot 8z \cdot 2b^2 + \frac{8bz^2}{8z^2} \\ & = 144b^2z^3 + b \end{aligned}$$

$$\begin{aligned} 5. \quad & 4c^2 + \frac{5c^2x}{5cx} + 4x^2 + x \\ & = 4c^2 + 4x^2 + c + x \end{aligned}$$

$$\begin{aligned} 10. \quad & -\frac{10y^2}{10y^2} - y^2 + 4y + 9y^2 \\ & = 8y^2 + 4y - 1 \end{aligned}$$