



Simplify rational expressions by factoring

1

Use factorization to simplify by showing what factors in this fraction multiplication can be cancelled out

$$\frac{30}{35} \times \frac{10}{3} \times \frac{5}{50}$$

A $\frac{3 \times 3 \times 5}{5 \times 7} \times \frac{2 \times 5}{7} \times \frac{5}{5 \times 5}$

B $\frac{2 \times 3 \times 5}{5 \times 7} \times \frac{2 \times 5}{3} \times \frac{5}{2 \times 5 \times 5}$

2

Use factorization to simplify

$$\frac{7}{5 \times 7} \times \frac{2 \times 2 \times 7}{2 \times 7}$$

A $\frac{7}{2}$

B $\frac{7}{8}$

C $\frac{5}{3}$

D $\frac{2}{5}$

E $\frac{2}{3}$

F $\frac{5}{6}$

3

Use factorization to simplify this fraction

$$\frac{21 \times 15}{6 \times 35}$$

A $\frac{3}{2}$

B $\frac{2}{3}$

C $\frac{5}{2}$

D $\frac{2}{5}$

E $\frac{5}{3}$

F $\frac{7}{2}$

4

Remove a common factor from this quadratic to make it easier to factor

$$-6n^2 - 6n + 120$$

A $6(n^2 - 1n + 20)$

B $-6(n^2 - 1n - 20)$

C $-6(n^2 - 20n - 1)$

D $6(n^2 + 1n + 20)$

E $-6(n^2 + 1n - 20)$

5

Which answer is the same expression as this

$$x^2 - 25$$

A $(x - 5)(x - 5)$

B $(x + 3)(x - 4)$

C $(x + 5)(x - 5)$

D $(x - 4)(x + 5)$

E $(x + 10)(x - 10)$

6

What does this expression simplify to?

$$\frac{w^2 + 2w + 1}{w + 1}$$

A $(w + 1)$

B $(w - 1)$

C $(w + 1)^2$

7

What does this expression simplify to?

$$\frac{p^2 - 81}{p + 9}$$

A $(p - 9)$

B $(p + 9)$

8

What does this expression simplify to?

$$\frac{m^2 + 2m + 1}{m + 1}$$

A $(m + 1)$

B $(m + 1)^2$

C $(m - 1)$

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What does this expression simplify to?

$$\frac{q^{2026} + q^{2025}}{q^{2025}}$$

A

$$(q + 1)^2$$

B

$$(q + 1)(q - 1)$$

C

$$q - 1$$

D

$$q + 1$$

12

What does this expression simplify to?

$$\frac{x^2 + 2x + 1}{x + 1}$$

A

$$(x + 1)$$

B

$$(x + 1)^2$$

C

$$(x - 1)$$

10

What does this expression simplify to?

$$\frac{c^2 - 81}{c - 9}$$

A

$$(c - 9)$$

B

$$(c + 9)$$

11

What does this expression simplify to?

$$\frac{p^{2030} - p^{2029}}{p^{2029}}$$

A

$$(p + 1)^2$$

B

$$p + 1$$

C

$$p - 1$$

D

$$(p + 1)(p - 1)$$