

QUESTIONS

1. Which expressions below are equivalent to $\frac{2x}{x^2-4}$? (Write yes/no for each)

a) $\frac{2x}{(x+2)(x-2)}$

b) $\frac{4x}{4x^2-4}$

c) $\frac{4x}{2x^2-8}$

d) $\frac{2x-1}{x^2-5}$

2. Simplify:

$$\frac{4a^5}{2a^3}$$

3. Simplify:

$$\frac{2x+2}{x^2+4x+3}$$

4. Multiply:

$$\frac{2}{x^2-16} \times \frac{x}{6}$$

5. Multiply:

$$\frac{x-2}{x^2-4} \times \frac{x+1}{x}$$

6. Divide:

$$\frac{5m+1}{2m^2+m} \div \frac{m-3}{m}$$

7. Divide:

$$\frac{2x+1}{x^2-1} \div \frac{3}{x+1}$$



8. Add:

$$\frac{3x + 2}{7x - 49} + \frac{3}{x - 7}$$

9. Add:

$$\frac{y - 9}{2y} + \frac{3y}{y - 4}$$

10. Subtract:

$$\frac{7x + 12}{x + 2} - \frac{3}{x}$$

11. Subtract:

$$\frac{4}{2x + 5} - \frac{1}{x - 7}$$

12. Solve:

$$\frac{5}{10 - x} = 5$$

13. Solve:

$$\frac{a^2}{a + 3} = 4$$



ANSWERS:

1. a) Yes b) No c) Yes d) No
2. $2a^2$, with NPV $a \neq 0$
3. $\frac{2}{x+3}$, with NPV $x \neq -1, -3$
4. $\frac{x}{3(x-4)(x+4)}$, with NPV $x \neq -4, 4$
5. $\frac{x+1}{x^2+2x}$, with NPV $x \neq -2, 0, 2$
6. $\frac{5m+1}{(2m+1)(m-3)}$, with NPV $m \neq 0, -\frac{1}{2}, 3$
7. $\frac{2x+1}{3x-3}$, with NPV $x \neq 1, -1$
8. $\frac{3x+23}{7(x-7)}$, with NPV $x \neq 7$
9. $\frac{7y^2-13y+36}{2y(y-4)}$, with NPV $y \neq 0, 4$
10. $\frac{7x^2+9x-6}{x(x+2)}$, with NPV $x \neq 0, -2$
11. $\frac{2x-33}{(2x+5)(x-7)}$, with NPV $x \neq -\frac{5}{2}, 7$
12. $x = 9$, with NPV $x \neq 10$
13. $x = 6, -2$, with NPV $a \neq -3$

