

Alg 2 Topic 9-10 Review Fall 2019

1. Simplify. $\frac{6x^4 + 6x^3 - 36x^2}{8x^3 - 32x}$

2. Simplify this product.

$$\frac{2x^2 + 6x}{x^2 - 1} \cdot \frac{x^2 - 3x - 4}{x^4 - x^3 - 12x^2}$$

3. Simplify this quotient.

$$\frac{4x^2 - 36x + 32}{2x^2 - 13x - 7} \div \frac{x^2 + 4x - 5}{x^2 - 2x - 35}$$

Find each sum or difference. Simplify the numerator in your answer.

4. $\frac{5x}{x^2 - 1} - \frac{3x}{x^2 + 3x + 2}$

5. $\frac{5}{2x^2 + 16x + 32} + \frac{7}{3x^2 + 12x}$

Simplify each.

6. $\frac{\frac{6}{x^3} + 1}{\frac{4}{y^2}}$

7. $\frac{\frac{3}{x-1} + 7}{4 - \frac{1}{x-1}}$

8. $\frac{\frac{7}{x^4} + \frac{3}{y}}{\frac{2}{y^2} - \frac{1}{x^2}}$

9. $\frac{\frac{4}{x+4}}{\frac{3}{x+2} - \frac{2}{x^2 + 6x + 8}}$

Solve each. Check for extraneous solutions.

10. $\frac{5}{x-6} - \frac{3}{x+2} = \frac{1}{x^2 - 4x - 12}$

11. $\frac{11}{3x} + \frac{4}{x^2} = \frac{1}{3}$

12. $\frac{x}{x+2} = \frac{x+10}{x^2 - 4}$

13. $\frac{3x}{x-4} + \frac{20}{x^2 - 3x - 4} = \frac{4x}{x+1}$

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ANSWERS

Fall 2019

1. $\frac{3x(x+3)}{4(x+2)}$

2. $\frac{2}{x(x-1)}$

3. $\frac{4(x-8)}{2x+1}$

4. $\frac{2x^2 + 13x}{(x+1)(x-1)(x+2)}$

5. $\frac{29x + 56}{6x(x+4)^2}$

6. $\frac{6y^2 + x^3y^2}{4x^3}$

7. $\frac{7x-4}{4x-5}$

8. $\frac{7y^2 + 3x^4y}{2x^4 - x^2y^2}$

9. $\frac{4x+8}{3x+10}$

10. $x = -13.5$

11. $x = -1, 12$

12. $x = 5$

13. $x = 20$