

Algebra: 3rd Nine Weeks Review

Simplify the difference.

1. $(-7x - 5x^4 + 5) - (-7x^4 - 5 - 9x)$

Multiply.

2. $(4k + 5)(3k^2 - 4k - 4)$

Multiply.

3. $(4x - 6y)^2$

Factor.

4. $x^2 - 10xy + 24y^2$

What is the factored form of the expression?

5. $15x^2 - 16xy + 4y^2$

What is the factored form of the expression?

6. $3x^2 + 8x - 16$

7. $50x^2 - 8$

What is the factored form of the expression? Factor completely.

8. $6x^4 - 9x^3 - 36x^2 + 54x$

9. $24q^7 - 42q^4r + 36q^2r^2 - 63r^3$

Simplify the radical expression.

10. $\sqrt{20n^6k^4}$

11. $2\sqrt{10} \cdot 3\sqrt{12}$

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ID: A

Simplify the radical expression.

12. $\sqrt{\frac{63x^{15}y^9}{7xy^{11}}}$

Simplify the radical expression by rationalizing the denominator.

13. $\frac{3}{\sqrt{11}}$

Simplify the expression.

14. $(9 - \sqrt{7})(9 + \sqrt{7})$

15. $\frac{3}{\sqrt{7} - \sqrt{2}}$

Solve the equation. Check your solution.

16. $\frac{5}{x} + \frac{3}{x} = 5$

17. $\frac{5}{4x+4} - \frac{6}{x+1} = -1$

18. $\frac{7}{x} + \frac{12}{x^2} = -1$

Solve the equation.

19. $\sqrt{6x+8} = \sqrt{7x-6}$

Solve the equation. Identify any extraneous solutions.

20. $8\sqrt{9j} + 10 = 1$

Multiply.

21. $\frac{x^2 - 8x + 15}{3x} \cdot \frac{8x}{x - 3}$

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Divide.

$$22. \frac{s^2 + 5s}{s^2 + 9s + 20} \div \frac{s - 3}{s + 4}$$

$$23. \frac{\frac{x^2 + 2x + 1}{x - 2}}{\frac{x^2 - 1}{x^2 - 4}}$$

Add or subtract the expressions.

$$24. \frac{-10x}{x - 8} - \frac{-4}{x - 8}$$

$$25. \frac{8}{x + 3} - \frac{3}{x - 2}$$