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March 2 - bell ringer

$$\textcircled{1} \quad \frac{a^2 - 5a}{3a - 18} - \frac{7a - 36}{3a - 18} = \frac{a - 6}{3}$$

$$2) \quad \frac{\frac{j^2 - 16}{j^2 + 10j + 16}}{\frac{15}{j+8}} = \frac{(j+4)(j-4)}{15(j+2)}$$

Factor

$$3) \quad 3x^3 - x^2 - 12x + 4 = (3x-1)(x+2)(x-2)$$

$$4) \quad 6x^2 - 26x - 20$$

$$2(3x+2)(x-5)$$

Algebra: 3rd Nine Weeks Review

Simplify the difference.

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

$$\begin{array}{r}
 -5x^4 - 7x + 5 \\
 + 7x^4 + 9x + 5 \\
 \hline
 2x^4 + 2x + 10
 \end{array}$$

Multiply.

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

$$\begin{array}{r}
 -24x^4y^3 - 24x^3y^3 \\
 (4x - 6y^3)(4x - 6y^3)
 \end{array}$$

Multiply.

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

$$\begin{array}{r}
 16x^2 - 48x^3y^3 + 36y^6 \\
 (4x - 6y^3)(4x - 6y^3)
 \end{array}$$

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. $50x^2 - 8$ $2(25x^2 - 4) = 2(5x+2)(5x-2)$

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

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

$$\begin{array}{r}
 3x(2x^3 - 3x^2 - 12x + 18)
 \end{array}$$

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

3) Simplify the radical expression.

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

$$\begin{array}{r}
 3x(x^2(2x-3) - 6(2x-3)) \\
 3x(2x-3)(x^2-6)
 \end{array}$$

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

10) $\sqrt{20h^6k^4}$

~~$\sqrt{4.5h^4k^4}$~~

(11)

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

$$\frac{6\sqrt{120}}{6\sqrt{4.30}}$$

Name: _____

Simplify the radical expression.

12. $\boxed{1} \sqrt{\frac{63x^{15}y^9}{7xy^{11}}} = \frac{\sqrt{9x^{14}}}{\sqrt{y^2}} = \frac{3x^7}{y}$

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. $(\sqrt{6x+8})^2 = (\sqrt{7x-6})^2$ $6x+8 = 7x-6$
 $-x = -14$
 $x = 14$

Solve the equation. Identify any extraneous solutions.

20. $8\sqrt{9j} + 10 = 1$ $8\sqrt{9j} = -9$ no sol

Multiply.

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

Divide.

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

23.
$$\begin{array}{r} \frac{x^2 + 2x + 1}{x - 2} \\ \underline{-x^2 - 1} \\ \hline x^2 - 4 \end{array}$$

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

Add or subtract the expressions.

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

$$\frac{(x+1)(x+1)}{x-2} \cdot \frac{(x+2)(x-2)}{(x+1)(x-1)}$$

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

24)

$$\begin{array}{r} -10x \\ \hline x-8 \end{array} \quad \begin{array}{r} -4 \\ \hline x-8 \end{array} \quad \frac{(x+1)(x+2)}{x-1}$$

or $\frac{2(-5x+2)}{x-8}$ or $\frac{-2(5x-2)}{x-8}$

Study.

9 weeks test is on Monday

Bell mixer

①

$$\frac{a^2 - 5a}{3a - 18}$$

$$- \frac{(a-36)}{3a-18}$$

$$\frac{a^2 - 5a - 7a + 36}{3a - 18}$$

$$\frac{a^2 - 12a + 36}{3(a-6)} = \frac{(a-6)(a-6)}{3(a-6)}$$
$$= a-6$$

3

4)

$$6x^2 - 26x - 20$$

$$2(3x^2 - 13x - 10)$$

$$2(x-5)(3x+2)$$

$$\begin{array}{r} \underline{-30} \\ -15.2 \\ \hline \end{array}$$

$$\begin{array}{r} \underline{3} \\ -15 \\ \hline \end{array}$$

$$\frac{3}{2}$$



WS

#25 $\frac{8(x-2)}{(x+3)} - \frac{3(x+3)}{x-2}$

$$\frac{8x-16}{(x+3)(x-2)} - \frac{\cancel{(3x+9)}}{(x+3)(x-2)}$$

$$\frac{8x-16-3x-9}{(x+3)(x-2)}$$

$$\frac{5x-25}{(x+3)(x-2)}$$

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

$$5+3=5x$$

$$8=5x$$

$$x=\frac{8}{5}$$

17) $\frac{5 \cdot 4(x+1)}{4(x+1)} - \frac{6 \cdot 4(x+1)}{x+1} = -1 \cdot 4(x+1)$

$$5-24=-4(x+1)$$

$$\begin{array}{r}
 -19 = -4x - 4 \\
 +4 \quad \quad \quad +4 \\
 \hline
 -15 = -4x \quad x = \frac{15}{4}
 \end{array}$$

LCD x^2

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

$$\begin{array}{r}
 7x + 12 = -x^2 \\
 +x^2 \quad \quad \quad +x^2 \\
 \hline
 \end{array}$$

$$\begin{array}{l}
 x^2 + 7x + 12 = 0 \\
 (x+3)(x+4) = 0
 \end{array}$$

$$x = -3, -4$$