Post Test Review Questions

⑧ $9r^3 + 92r^2 + 23r + 27$

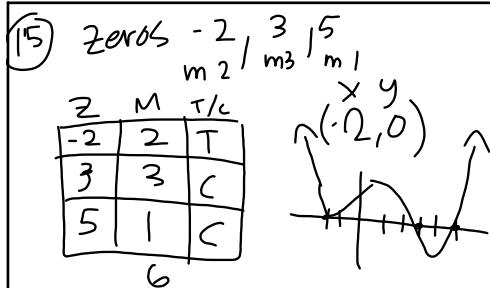$f(1) = r$ $f(-10) = 9(-10)^3 + 92(-10)^2 + 23(-10)^2$

$r + 10 = 0$
$-10 \quad -10$ $= -9000 + 9200 - 230 + 27$

$r = -10$ $= 200 - 230 + 27$

$= -30 + 27 = -3$

$f(7) = 9(7)^3 + 92(7)^2 + 23(7) + 27$

$f(-8) = 9(-8)^3 + 92(-8)^2 + 23(-8) + 27$

$9(-512) + 92(64) + (-184) + 27$

$= -4608 + 5888 - 184 + 27$

$f(-5) = 9(-5)^3 + 92(-5)^2 + 23(-5) + 27$

$9(-125) + 92(25) - 115 + 27$

$-1125 + 2300 - 115 + 27$

$= \varnothing$

Oct 3-7:23 AM

$f(x) = x^5 - 3x^2 + 2x - 1$

<u>five</u>

Oct 3-7:45 AM

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⑮ zeros $-2 \quad \frac{3}{m3} \quad \frac{5}{m1}$
$\quad m2$

Z	M	T/C
-2	2	T
3	3	C
5	1	C

6

$x \quad y$

$(-2, 0)$

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⑰ $25x^2 - y^2$

$(5x + y)(5x - y)$

⑱ $4n^2 - 25m^2$

$(2n + 5m)(2n - 5m)$
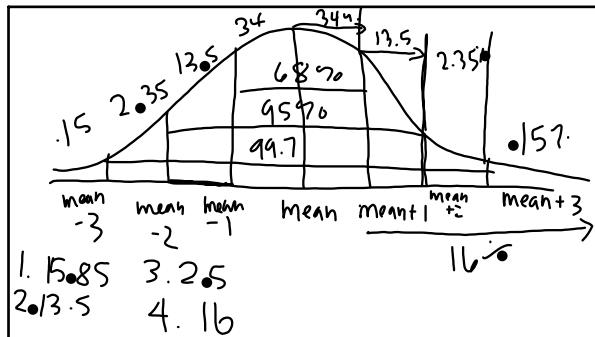
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Post Test Quiz

Calendar Math

3.1 Simplify/Multiply/Divide Rational Functions

HW 3.1 Worksheet

Oct 3-7:24 AM

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34 34
13.5 13.5
.15 2.35 68% 2.35
95%
99.7
.15 .15%

mean mean mean mean mean+1 mean mean+3
-3 -2 -1 +2

16

1. 15.85 3. 2.5
2. 13.5 4. 16

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Rational Function: any function that has a numerator and a denominator that are both polynomials

Steps (Simplify/Multiply):

1. Factor both the numerator and the denominator.
2. Write as one fraction.
3. Simplify the rational expression.
4. Multiply any remaining factors in the numerator and/or denominator.

$$\frac{P}{Q} \cdot \frac{R}{S} = \frac{PR}{QS}$$

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ex1) $f(x) = \dfrac{x^2 - 4}{x+2}$

$$\frac{(x+2)(x-2)}{(x+2)} = \boxed{x-2}$$

$\dfrac{2}{2} = 1$

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ex2) $f(x) = \dfrac{x^2 - 5x + 4}{x^2 + 2x - 3}$

$\boxed{\dfrac{(x-4)}{(x+3)}}$

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

$-1 \diagdown \begin{matrix} 4 \\ -4 \end{matrix}$
$\diagup -5$

$3 \diagdown \begin{matrix} -3 \\ -1 \end{matrix}$
$\diagup 2$

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ex3) $\dfrac{3x^2 y}{2z^2} \cdot \dfrac{8x^3 z}{15 y^3}$

$$\frac{24x^5 yz}{30 z^2 y^3} = \boxed{\frac{4x^5}{5 y^2 z}}$$

$x^2 \cdot x^3 = x^{2+3}$
x^5

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ex 4) $\dfrac{x^2 - 4}{2x+2} \cdot \dfrac{x^2 - 2x - 3}{x^2 + 4x + 4}$

$$\frac{(x-2)(x+2)}{2(x+1)} \cdot \frac{(x-3)(x+1)}{(x+2)(x+2)}$$

$-3 \diagdown \begin{matrix} -3 \\ 1 \end{matrix}$
$\diagup -2$

$2 \diagdown \begin{matrix} 4 \\ 2 \end{matrix}$
$\diagup 4$

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

$$\boxed{\frac{x^2 - 5x + 6}{2x + 4}}$$

	x	-3
x	x^2	-3x
-2	-2x	6

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2

Steps (Divide):
1. Write as multiplication of the reciprocal.
2. Multiply the rational expressions.
3. Factor both the numerator and the denominator.
4. Write as one fraction.
5. Simplify the rational expression.
6. Multiply any remaining factors in the numerator and/or denominator.

$$\frac{P}{Q} \div \frac{R}{S} = \frac{P}{Q} \cdot \frac{S}{R} = \frac{PS}{QR}$$

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ex5
$$\frac{3x^6 y z^2}{7xy^3} \div \frac{15xy^3 z^8}{7x^6 y^2 z^6}$$

$$\frac{3x^6 y z^2}{7xy^3} \cdot \frac{7x^6 y^2 z^6}{15xy^3 z^8}$$

$$y^{6-3} = y^3$$

$$\frac{21x^{12} y^3 z^8}{105 x^2 y^6 z^8} \qquad \frac{1}{5} \frac{x^{10}}{y^3} \qquad \boxed{\frac{x^{10}}{5y^3}}$$

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44)
$$\frac{12x - 20}{x^2 - 4x - 21} \div \frac{9x^2 - 25}{3x^2 + 14x + 15}$$

$$\frac{12x - 20}{x^2 - 4x - 21} \cdot \frac{3x^2 + 14x + 15}{9x^2 - 25}$$

$$\frac{4(3x - 5)}{(x - 7)(x + 3)} \cdot \frac{(x + 3)(3x + 5)}{(3x - 5)(3x + 5)}$$

$$\frac{4}{(x - 7)} \cdot 1 = \boxed{\frac{4}{x - 7}}$$

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