Name _____

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MATH@TD

MCR3U

11U1 - Rational Expressions: Test (Period 3) K ____/8 T ____/20 C ____/4

Multiple Choice **K ____/5**

Identify the choice that best completes the statement or answers the question.

____ 1. Which of the following are factors for the polynomial $x^2 + 13x - 48$?

a. $(x + 6)(x + 8)$
c. $(2x + 2)(x - 12)$
b. $(x + 16)(x - 3)$
d. $(x + 3)(x - 16)$

____ 2. Simplify.

$(6n^2 - 3n + 9) - (n^2 + 3n - 5)$

a. $5n^2 + 4$
c. $7n^2 + 14$
b. $5n^2 - 6n + 14$
d. $7n^2 + 6n + 4$

____ 3. Expand and simplify.

$6x(9x - 3x^2 - 10)$

a. $-18x^2 + 54x - 60$
c. $51x^2 - 10$
b. $-18x^3 + 54x^2 - 60x$
d. -24

____ 4. What are the restrictions on the variable for $\frac{m+2}{2m+3} + \frac{5}{m-2}$?

a. $m \neq -\frac{3}{2}, 2$
c. $m \neq \frac{3}{2}, -2$
b. $m \neq -2, 0, 2, 3$
d. No restrictions

____ 5. Simplify.

$\frac{8g^3}{36g^4}$

a. $\frac{2}{9g}$
c. $\frac{1}{4g}$
b. $18g$
d. $\frac{9g}{2}$

Full Solution - Write clear and thorough solutions to the following problems. You can receive up to 3 Communication Points for how well your mathematics is presented.

6. Simplify and state any restrictions on the variable. **K ____/3**

$$\frac{3a^2 - 5a + 8}{9a^2 - 64}$$

7. Simplify $\frac{x^2 - 8x - 20}{(x-10)(2x+1)} \times \frac{x^2 + 4x - 12}{x^2 - 9x + 14}$ and state any restrictions on the variables. **T ____/4**

8. Simplify $\frac{b^2+5b-6}{1-b} \div \frac{b^2+8b+12}{2b^2+5b+2}$ and state any restrictions on the variables. **T ____/4**

9. Simplify and state any restrictions on the variable. **T ____/4**

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

10. $\dfrac{5a}{2a^2-3a-2}-\dfrac{3}{2a^2+7a+3}$ **T ____/4**

11. Simplify and state any restrictions on the variable. Remember the order of operations. **T ____/4**

$$\frac{1}{3x^2+7x+2}+\frac{2}{x^2+3x+2}\times\frac{x+1}{x-5}$$

12. Explain why I have continually said in class (and on this test) “state your restrictions”. **C ____/1**