40/40 = 100

Foundations for College Algebra - MW
University of North Georgia
Fall 2015
Exam #2

Name: Key Date: November 2, 2015

Simplify

1. $\dfrac{\frac{2}{7}+\frac{5}{x}}{-\frac{6}{x^3}} = \dfrac{\frac{2x+35}{7x}}{-\frac{6}{x^3}} = \dfrac{2x+35}{7x} \cdot -\dfrac{x^3}{6}$

$= \boxed{\dfrac{(2x+35)(x^2)}{42} \text{ or } \dfrac{2x^3+35x^2}{42}}$

2. $(3x^{-2}y^4)(-2x^{-5}y^{-4})$

$-6x^{-7}y^0 = -\dfrac{6}{1} \cdot \dfrac{1}{x^7} = \boxed{-\dfrac{6}{x^7}}$

3. State the *Domain* and *Range* of the following relation and determine if it is also a function:

$R = \{(-2,5),(3,5),(-11,5)\}$

Domain: $\{-2, 3, -11\}$ No repeats → A function

Range: $\{5\}$

4. Define and give an example of the term ***Relatively Prime***.

When "one" is the GCF

$(3x+4)$

Factor the following completely.

5. $21v^3 - 84v^2 + 15v - 60$

$21v^2(v-4) + 15(v-4)$

$(v-4)(21v^2+15)$

$(v-4)\,3(7v^2+5)$

$\boxed{3(v-4)(7v^2+5)}$

6. $2w^2 + 4w + 48$

$\boxed{2(w^2+2w+24)}$ *R.P.*

$ac = 24 \quad b = 2$

+	+	+	•
1	1	2	1

7. $-4x^2 + 15x + 25$

$-(4x^2 - 15x - 25) \quad ac = -100 \quad b = -15$

$-(4x^2 - 20x + 5x - 25)$

−	+
20	5

$-(4x(x-5) + 5(x-5))$

$\boxed{-(x-5)(4x+5)}$

8. $-8^2 = 64$ True or False? Why?

False $\quad (-1)\cdot 8^2$

$(-1)\cdot 8\cdot 8$

$(-8)\cdot 8$

$\boxed{-64}$

Solve the following equation by **using and stating** the "correct" *Algebraic Tool* for each new line you write as done in class. Hint: pay close attention to what tool you select!

9. $\emptyset(\forall + \odot) - ! = \infty, for\ \forall$

$\emptyset \forall + \emptyset \odot - ! = \infty$ Dist

$\emptyset \forall = \infty - \emptyset \odot + !$ A. A. of A. Id

$$\boxed{\forall = \frac{\infty - \emptyset \odot + !}{\emptyset}}$$ m. d.

10. Show that $x = \frac{19}{7}$ is a solution of $-4(x-5) = 3(x+2) - 5$

$$-4\left(\frac{19}{7} - \frac{5}{1}\right) = 3\left(\frac{19}{7} + \frac{2}{1}\right) - 5$$

$$-4\left(\frac{19-35}{7}\right) = 3\left(\frac{19+14}{7}\right) - 5$$

$$-4\left(-\frac{16}{7}\right) = 3\left(\frac{33}{7}\right) - 5$$

$$\boxed{\frac{64}{7}} = \frac{99}{7} - \frac{5}{1}$$

$$= \frac{99-35}{7}$$

$$= \boxed{\frac{64}{7}}$$