

Name _____
Date _____

MTH 098 – Introduction to Algebra
Class #15 A

Review Class

Section 1. Order of Operations.

Substitute the indicated variables and use Order of Operations to Simplify .

1. Evaluate: $a^2 - 2(b - 3c)$ when:
 $a = 5$, $b = -4$, and $c = 3$
2. Evaluate: $2x^2 + (3y + z)(3y - z)$ when:
 $x = -7$, $y = 3$, $z = 4$

3. Evaluate: $3b - (4a + c)^2$ when:
 $a = 4$, $b = -5$, and $c = -1$
4. Evaluate: $(3x - 2z)^2 - 5y$ when:
 $x = 7$, $y = -3$, $z = -4$

5. Evaluate: $\frac{7a - 3b}{5c}$ when:
 $a = 3$, $b = -3$, and $c = 2$
6. Evaluate: $\frac{(x + 3y)^2}{5z}$ when:
 $x = 6$, $y = 8$, $z = 12$

Section 2. Solve and Check the equations.

1. Solve for x : $4r = 10 - 2(r - 4)$

2. Solve for x : $5x + 3 = 2(x + 6)$

3. Solve for x : $\frac{4}{3}x - 10 = 6$

4. Solve for x : $11 = \frac{7}{4}x - 10$

5. Solve for x : $.07(x - 3) = 1.4$

6. Solve for x : $x + 0.07x = 16.05$

Section 3. Formula Problems – Solve and Re-Arrange for the Asked for Variable.

1. Solve for b : $A = \frac{1}{2}bh$

2. Solve for h : $A = \frac{1}{2}bh$

3. Solve for L : $P = 2L + 2W$

4. Solve for r : $C = 2\pi r$

5. Solve for C : $F = \frac{9}{5}C + 32$

6. Solve for F : $C = \frac{5}{9}(F - 32)$

Section 4. Formula Problems – Solve and Re-Arrange for the Asked for Variable.

1. Simplify – Positive Exponents

$$\left(-2a^2b^{-3}\right)^{-2}$$

2. Simplify – Positive Exponents

$$\left(\frac{3}{4}a^{-3}b^4\right)^{-1}$$

3. Simplify – Positive Exponents

$$\left(\frac{-2x^2y^5}{3x^3y}\right)^2$$

4. Simplify – Positive Exponents

$$\left(\frac{6a^3b}{8ab^5}\right)^2$$

5. Simplify – Positive Exponents

$$\left(\frac{16r^3s^{-3}}{8rs^2}\right)$$

6. Simplify – Positive Exponents

$$\left(\frac{2x^2y^5}{8x^7y^{-3}}\right)$$

7. Simplify – Positive Exponents

$$\left(\frac{b^4c^{-2}}{2d^{-3}}\right)^{-1}$$

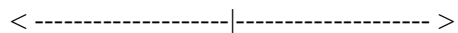
8. Simplify – Positive Exponents

$$\left(\frac{x^3y^{-4}z}{y^{-2}}\right)^{-4}$$

Section 5. Linear Inequalities: Graph the solutions on the number line provided.

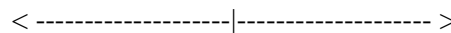
1. Solve and Graph the Inequality.

$$3x + 4 > -8$$



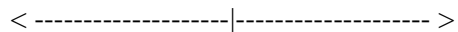
2. Solve and Graph the Inequality.

$$3x - 4 \leq 5$$



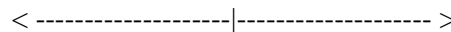
3. Solve and Graph the Inequality.

$$-3x < 2x + 10$$



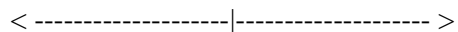
4. Solve and Graph the Inequality.

$$-x + 4 \geq -3x + 6$$



5. Solve and Graph the Inequality.

$$2(3 - x) + 4x < 6$$



6. Solve and Graph the Inequality.

$$2(x - 3) > 4x + 10$$

