

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**UNIT #1 - REVIEW SHEET. YES!**

**Part I Questions:**

1. Which of the following is the value of the expression  $2x^2 + 1$  when  $x = -2$ ?

(1) -7

(3) -15

$2(-2)^2 + 1$

(2) 17

(4) 9

$2(4) + 1$   
 $8 + 1 = 9$

P  
E  
MD  
AS

2. Which equation below illustrates the associative property of addition?

✓ (1)  $(2+8)+(1+9)=(8+2)+(9+1)$

(3)  $5+2(3+4)=5+6+8$

(2)  $5(2+7)=10+35$

✓ (4)  $(3+7)+2=3+(7+2)$

3. Which expression below is equivalent to  $10x - 35$ ?

DISTRIBUTIVE PROPERTY

Cancel out wrong answers

(1)  $5(2x-7)$

(3)  $10(x-5) = 10x - 50$

(2)  $x(10-35)$

$= 10x - 35x$

(4)  $10(x-35) = 10x - 350$

4. The product of the binomial  $(3x+2)$  with the binomial  $(2x-1)$  can be written equivalently as

(1)  $5x+1$

(3)  $6x^2 + x - 2$

$(3x+2)(2x-1)$

(2)  $6x-3$

(4)  $6x^2 - 2$

$6x^2 - 3x + 4x - 2$

$6x^2 + x - 2$

5. Written in simplest exponential form the product  $(3x^7)(-2x^3)$  is?

(1)  $-5x^2$

(3)  $x^4$

(2)  $-6x^{10}$

(4)  $-6x^{21}$

$-6x^{7+3} = -6x^{10}$

$3 \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot -2 \cdot x \cdot x \cdot x$

6. What is the first step in simplifying the expression  $(2 - 3 \times 4 + 5)^2$

- 1) square 5
- 2) add 4 and 5
- 3) subtract 3 from 2
- 4) multiply 3 by 4

$(1+5)^2 = 6^2 = 36$

7. Which of the following is equivalent to  $(x+5)^2$ ?

- 1)  $x^2 + 10x + 25$
- 2)  $x^2 + 25$
- 3)  $2x + 25$
- 4)  $2x + 10$

$(x+5)^2 = (x+5)(x+5)$

$x^2 + 5x + 5x + 25 = x^2 + 10x + 25$

P  
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S

8. If the expression  $3 - 4^2 + \frac{6}{2}$  is evaluated, what would be done last?

- 1) subtracting
- 2) squaring
- 3) adding
- 4) dividing

$3 - 16 + \frac{6}{2}$   
 $3 - 16 + 3$   
 $-13 + 3$

9. Which number is rational?

- 1)  $\pi$
- 2)  $\frac{5}{4}$
- 3)  $\sqrt{7}$
- 4)  $\sqrt{\frac{3}{2}}$

ratio!  
fraction!

10. Which is an irrational number?

- 1) 0
- 2)  $\pi$
- 3)  $-\frac{1}{3}$
- 4)  $\sqrt{9} = 3$

$\frac{500 \text{ hrs}}{15 \text{ mi}} = \frac{x \text{ hrs}}{6 \text{ mi}}$

$\frac{15x}{15} = \frac{3000}{15} \quad x = 200$

11. It takes a snail 500 hours to travel 15 miles. At this rate, how many hours will it take the snail to travel 6 miles?

- 1) 0.18
- 2) 5.56
- 3) 150
- 4) 200

$\frac{500 \text{ hrs}}{15 \text{ mi}} = \frac{x \text{ hrs}}{1 \text{ mi}}$

500 hrs → 15 miles  
 ? hrs → 6 miles

Free Response Questions:

12. What is the value of the expression  $-3x^2y + 4x$  when  $x = -4$  and  $y = 2$ ?

$$\begin{aligned}
 & -3(-4)^2(2) + 4(-4) \\
 & -3(16)(2) + (-16) \\
 & -3(32) - 16 = -96 - 16 = \boxed{-112}
 \end{aligned}$$

13. Multiply and write an expression that is equivalent to  $(2x+5)(3x-2)$ .

$$\begin{aligned}
 & (2x+5)(3x-2) \\
 & \begin{array}{l} \text{LIFE TERMS} \\ 6x^2(-4x) + 15x - 10 \\ 6x^2 + 11x - 10 \quad \checkmark \end{array}
 \end{aligned}$$

14. Write the following expression in simplest form.

$$\begin{aligned}
 & 4(3x-2) - 2(4x+5) \\
 & \begin{array}{l} \text{Circles around } 12x, -8, -8x, -10 \\ \text{Red boxes around } -8, -8x, -10 \\ \text{Purple oval around } 4x - 18 \end{array}
 \end{aligned}$$

15. Consider the binomial expression  $3x+1$ .

(a) What property is illustrated in the identity shown below?

$$2(3x+1) = 6x+2$$

DISTRIBUTIVE

(b) What property is illustrated in the identity shown below?

$$6x+(2+3) = (6x+2)+3$$

ASSOCIATIVE