Math 085 - Test 2a

Name Key

September 26, 2013

Score _____

Part 1 - Solve each problem. Show all work to receive full credit. Supply explanations where necessary. Each problem is worth 2 points. CALCULATORS ARE ALLOWED ON THIS PORTION OF THE TEST.

1. Evaluate the following expression: $\dfrac{113 - 17^3}{3 \cdot 5 + 8^3 - 507} = \dfrac{-4800}{20} = \boxed{-240}$

2. Combine like terms: $317x - 45y + 95x - 39y + 17$

$$\boxed{412x - 84y + 17}$$

3. Evaluate $x - 13x^2$ when $x = 15$.

$$15 - 13(15)^2 = \boxed{-2910}$$

4. Solve the equation: $23x - 24 = -1082$

$$+24 \quad +24$$

$$\frac{23x}{23} = \frac{-1058}{23} \Rightarrow \boxed{x = -46}$$

5. Compute $-974 - (-324)$.

$$\boxed{-650}$$

Math 085 - Test 2b

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Part II - Solve each problem. Show all work to receive full credit. Supply explanations where necessary. CALCULATORS ARE NOT ALLOWED ON THIS PORTION OF THE TEST.

1. (2 points) Put these integers in order from least to greatest.

~~9~~, ~~−5~~, ~~−3~~, ~~−8~~, ~~1~~, ~~−15~~, ~~4~~, ~~0~~

$-15, -8, -5, -3, 0, 1, 4, 9$

2. (1 point) What is the value of $-(-x)$ if $x = 3$.

$-(-3) = +3$

3. (2 points) Compute each absolute value.

(a) $|-17|$

$= 17$

(b) $|8|$

$= 8$

(c) $|0|$

$= 0$

(d) $|-5|$

$= 5$

4. (1 point) Circle the greatest integer: -6, $(-4,)$ -9, -12

5. (2 points) List the terms: $3x^2 - 7x - 2x^2 + 1$

$3x^2, -7x, -2x^2, 1$

6. (10 points) Compute each of the following.

(a) $-8+3$ = $-(8-3)$ = $\boxed{-5}$

(b) $-6-(-9)$ = $-6+9$ = $9-6$ = $\boxed{3}$

(c) $-4\times(-7)$ = 4×7 = $\boxed{28}$

(d) $-42\div6$ = $-(42\div6)$ = $\boxed{-7}$

(e) $-7+(-4)$ = $-(7+4)$ = $\boxed{-11}$

(f) $-7-4$ = $-7+(-4)$ = $-(7+4)$ = $\boxed{-11}$

(g) $6\times(-3)$ = $-(6\times3)$ = $\boxed{-18}$

(h) $5-9$ = $5+(-9)$ = $-(9-5)$ = $\boxed{-4}$

(i) $-20\div(-10)$ = $20\div10$ = $\boxed{2}$

(j) $8+(-2)$ = $8-2$ = $\boxed{6}$

7. (3 points) Simplify each expression by combining like terms.

(a) $a + 3b + 5a - 2 + b$

$6a + 4b - 2$

(b) $-13y + y$

$-12y$

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

$4x^2 + y$

8. (4 points) Solve each equation.

(a) $23 = 7 + 2x$

$-7 \quad -7$

$\frac{16}{2} = \frac{2x}{2}$ $\quad X = 8$

(b) $9 - w = -4$

$-9 \quad -9$

$\frac{-w}{-1} = \frac{-13}{-1} \rightarrow w = 13$

(c) $-4x = 36$

$-4 \quad -4$

$x = -9$

(d) $2w - 7 + w = 5 - 12$

$3w - 7 = -7$

$+7 \quad +7$

$\frac{3w}{3} = \frac{0}{3}$

$w = 0$

9. (2 points) Use the distributive property to remove the parentheses. Then simplify by combining like terms.

$$2(x+5y)+7(2y-3x)$$

$2x + 10y + 14y - 21x$

$\boxed{-19x + 24y}$

10. (3 points) Evaluate each expression.

(a) $-4-(-3)\times 8$

$-4 - (-24) = -4 + 24 = \boxed{20}$

(b) $8-|6-4^2|$ $= 8 - |-10| = 8 - 10 = \boxed{-2}$

(c) $\dfrac{100-6^2}{(-5)^2-3^2}$ $= \dfrac{100-36}{25-9} = \dfrac{64}{16} = \boxed{4}$

Part III - Circle the best answer for each problem. Each problem is worth 2 points.
CALCULATORS ARE NOT ALLOWED ON THIS PORTION OF THE TEST.

1. The expression $a - b$ is equivalent to

   (a) $b - a$

   (b) $a + b$

   (c) $a + (-b)$

   (d) $(-a) + b$

2. What is the opposite of -3?

   (a) 3

   (b) -3

   (c) $1/3$

   (d) 0

3. Two negative numbers are multiplied. Which of the following is true?

   (a) The result is a positive number.

   (b) The result is a negative number.

   (c) The sign of the result depends on the numbers.

4. What would be the best first step in solving $4x - 7 = 1$?

   (a) Add 7 to both sides.

   (b) Subtract 4 from both sides.

   (c) Subtract 1 from both sides.

   (d) Add $4x$ to both sides.

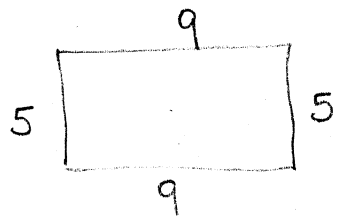
5. A rectangle measures 5 ft by 9 ft. Find the perimeter of the rectangle.

   (a) $45\,\text{ft}^2$

   (b) 14 ft

   (c) 90 ft

   (d) 28 ft



$5+9+5+9$
$= 28$