

Math 10 – Unit 2 – 2.1 to 2.10

To the Test – be sure to bring:

- (1) your personally-prepared 8 ½ " by 11" study guide for this test
- (2) your simple, non-graphing calculator and
- (3) your pencils

1. Place the following integers in order from smallest to largest. -9, -13, 12, -12, 8, 2

*-13, -12, -9, 2, 8, 12*

2. Evaluate:  $-|-17|$        $| -17 |$        $-| 17 |$   
 $-17$                        $17$                        $-17$

3. Evaluate:  $| -7 | - | 4 |$        $| -7 | + | -4 |$   
 $7 - 4$                        $7 + 4$   
 $\textcircled{3}$                                $\textcircled{11}$

4. Add:  $(-25) + 17 + (-14) + 4$   
 $-8 + (-14)$   
 $-22 + 4 \Rightarrow \textcircled{-18}$

5. Mike has \$150 in his checking account. He writes a check for \$25 and makes a deposit of \$74. What is the resulting balance?

$$\begin{array}{r} 150 \\ - 25 \\ \hline 125 \\ + 74 \\ \hline \$199 \end{array}$$

6. Evaluate:  $-23 - (-9)$        $-9 - 23$        $9 - 23$   
 $-23 + 9$                        $-9 + 23$                        $9 + 23$   
 $\textcircled{-14}$                                $\textcircled{-32}$                                $\textcircled{-14}$

7. Multiply:  $(-12)(-5)$        $(12)(-5)$        $(-12)(5)$   
 $60$                                $-60$                                $-60$

8. Evaluate the expression:  $-3^2 - 6 \div 3$   
 $-9 - 6 \div 3$   
 $-9 - 2$   
 $\textcircled{-11}$

*Be Very Careful*  
 *$-3^2$  is not  $(-3)^2$*

9. Evaluate:  $\frac{-11}{0} = \text{Undefined}$      $\frac{33}{3} = 11$      $56 \div (-8) = -7$

Also  $\frac{0}{-11} = 0$

10. Evaluate:  $\frac{-14 + (11)(-2)}{-10 - 2} = \frac{-14 + (-22)}{-12} \Rightarrow \frac{-36}{-12} = 3$

11. Write the following phrase using symbols.

The product of N and 5, divided by the difference of N and 3

$5N \div N-3$

means multiply

means subtract

$\frac{5N}{N-3}$  OR

$5N \div (N-3)$

must use ( )  
if  $\div$  sign used

12. Write the following phrase using symbols.

The difference of 8 less than a number and 4 more than that same number

$(N-8) - (N+4)$  TRICKY!

13. Evaluate the expression  $b(a-c)$  if  $a=5$ ,  $b=-3$ , and  $c=12$ .

$-3(5-12)$   
 $-3(-7) = 21$

14. Combine like terms:

$6x^2 + 7x - 3x + 2x^2$   
 $6x^2 + 2x^2 + 7x - 3x$   
 $8x^2 + 4x$

15. Use the distributive property to remove the parentheses. Then combine like terms.

$3(5x+9) + 6x$   
 $15x + 27 + 6x$   
 $21x + 27$

16. Is -5 a correct solution for

$$3x - 5 = -17$$

$$\begin{array}{r}
 3(-5) - 5 \\
 -15 - 5 \\
 -20 \quad \text{NO}
 \end{array}$$

17. Is -4 a correct solution for

$$3x - 5 = -17$$

$$\begin{array}{r}
 3(-4) - 5 \\
 -12 - 5 = -17 \quad \text{yes}
 \end{array}$$

18. Solve the equation for the value of x:

move x to the side with the most x's

$$\begin{array}{r}
 25x + 8 = 24x - 6 \\
 -24x \quad = -24x \\
 \hline
 x + 8 = -6 \\
 -8 \quad = -8 \\
 \hline
 x = -14 \quad \{-14\}
 \end{array}$$

$$\begin{array}{r}
 8x - 2 = 7x + 7 \\
 -7x \quad = -7x \\
 \hline
 x - 2 = +7 \\
 +2 \quad = +2 \quad \leftarrow \text{add opposite} \\
 \hline
 x = 9 \quad \{9\}
 \end{array}$$

19. Solve the equation for the value of x:

$$\begin{array}{r}
 -2(x - 3) = 1 - x \\
 -2x + 6 = 1 - x \quad \leftarrow \text{MORE } x\text{'s} \\
 +2x \quad = +2x \\
 \hline
 +6 = 1 + x \\
 -1 \quad = -1 \\
 \hline
 5 = x
 \end{array}$$

$$\begin{array}{r}
 -(8x + 6) = -9x + 9 \\
 -8x - 6 = -9x + 9 \\
 9x \quad = +9x \\
 \hline
 x - 6 = 9 \\
 +6 \quad = +6 \\
 \hline
 x = 15 \quad \{15\}
 \end{array}$$

20. Solve the equation for the value of x:

$$2(11x - 4) - 7 = 3(7x + 5) - 14$$

$$22x - 8 - 7 = 21x + 15 - 14 \quad \text{combine}$$

$$\begin{array}{r}
 22x - 15 = 21x + 1 \\
 -21x \quad = -21x \\
 \hline
 x - 15 = +1 \\
 +15 \quad = +15 \\
 \hline
 x = 16 \\
 \{16\}
 \end{array}$$