

East Los Angeles College

Department of Mathematics

Math 115

Test 1

32✓

Use order of Operation to evaluate the following.

1. $(-3)^2 + (2 - 4 \cdot 3)$

2. $|-4| + |2 - 8|$

3. $3(-2) + 4(-8)$

4. $(-2)^3 + 5^2$

Simplify the following fractions.

5. $\frac{20}{25}$

6. $\frac{16}{12}$

Multiply or Divide the following fractions.

7. $\frac{5}{6} \cdot \frac{2}{15}$

8. $\frac{8}{9} \div \frac{4}{15}$

Add the following fractions.

9. $\frac{2}{5} - \frac{3}{5}$

10. $\frac{1}{3} - \frac{1}{2}$

Simplify the following expressions

11. $2x - 5(x + 3)$

12. $3(x - 4) + 2(x + 1)$

Solve the following equations.

13. $2x - 8 = -6$

14. $4x + 5 = 3x - 7$

15. $4(x + 5) - 2 = -10$

16. $4(x + 5) = 2(x - 8)$

17. $\frac{2}{3}x = \frac{4}{5}$

18. $-3x = \frac{6}{5}$

Solve and Graph the following Linear Inequalities.

19. $4x - 5 > 2x + 7$

20. $-x + 5 < -3$

21. $-3(x + 4) \leq 6$

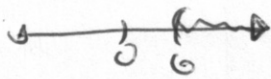
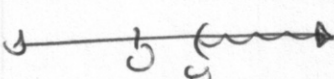
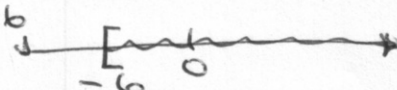
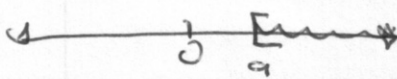
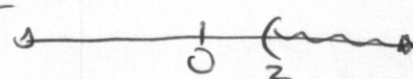
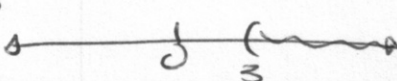
22. $5x - 10 \geq 3x + 8$

23. $3x - 11 > -5$

24. $-2x + 8 < 2$

25. What is your name?

Answer Sheet

1	-1	-	14	-12	-
2	10	-	15	-7	-
3	-38	-	16	-18	-
4	17	-	17	$\frac{6}{5}$	-
5	$\frac{4}{5}$	-	18	$-\frac{2}{5}$	-
6	$\frac{4}{3}$	-	19	$x > 6$	
7	$\frac{1}{9}$	-	20	$x > 9$	
8	$\frac{10}{3}$	-	21	$x \geq -6$	
9	$-\frac{1}{5}$	-	22	$x \geq 9$	
10	$-\frac{1}{6}$	-	23	$x > 2$	
11	$-3x - 15$	-	24	$x > 3$	
12	$5x - 10$	-	25	Solutions	
13	1	-	26		

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math 11S Test 1

(1) $(-3)^2 + (2 - 4 \cdot 3)$ (5)

$\frac{20}{25}$

$(-3)^2 + (2 - 12)$

$\frac{(2 \cdot 2) \cancel{8}}{(5) \cancel{5}} \quad \left(\frac{4}{5} \right)$

$(-3)^2 + (-10)$

(6) $\frac{16}{12}$

$\frac{\cancel{2} \cdot \cancel{2} \cdot 2 \cdot 2}{\cancel{2} \cdot \cancel{2} \cdot 3} \quad \left(\frac{4}{3} \right)$

$9 + (-10)$

(-1)

(7) $\frac{5 \cdot 2}{6 \cdot 15}$

$\frac{5 \cdot 2}{6 \cdot 15}$

(2) $|-4| + |2 - 9|$

$|-4| + |-6|$

$\frac{\cancel{8} \cdot \cancel{7}}{\cancel{2} \cdot \cancel{3} \cdot 3} \quad \left(\frac{1}{9} \right)$

$4 + 6$

(8) $\frac{8}{9} \div \frac{4}{15}$

(10)

$\frac{8}{9} \cdot \frac{15}{4}$

(3) $3(-2) + 4(-8)$

$-6 + (-32)$

$\frac{8 \cdot 15}{9 \cdot 4}$

(-38)

$\frac{\cancel{7} \cdot \cancel{2} \cdot \cancel{8} \cdot 5}{(\cancel{3}) \cdot \cancel{8} \cdot \cancel{4} \cdot \cancel{7}} \quad \left(\frac{10}{3} \right)$

(4) $(-2)^3 + 5^2$

$(-8) + 25$

(9) $\frac{2}{5} - \frac{3}{5}$

(17)

$\frac{2-3}{5} \quad \left(-\frac{1}{5} \right)$

$$(10) \quad \frac{1}{3} - \frac{1}{2}$$

$$\frac{1 \cdot 2}{3 \cdot 2} - \frac{1 \cdot 3}{2 \cdot 3}$$

$$\frac{2}{6} - \frac{3}{6}$$

$$\frac{2-3}{6}$$

$$\left(-\frac{1}{6} \right)$$

$$(11) \quad 2x - 5(x+3)$$

$$2x - 5x - 15$$

$$\left(-3x - 15 \right)$$

$$(12) \quad 3(x-4) + 2(x+1)$$

$$3x - 12 + 2x + 2$$

$$\left(5x - 10 \right)$$

$$(13) \quad \begin{array}{r} 2x - 6 = -6 \\ +6 \quad +6 \end{array}$$

$$\frac{2x}{2} = \frac{2}{2}$$

$$\left(x = 1 \right)$$

$$(14) \quad \begin{array}{r} 4x + 5 = 3x - 7 \\ -3x \quad -3x \end{array}$$

$$\begin{array}{r} x + 5 = -7 \\ -5 \quad -5 \end{array}$$

$$\left(x = -12 \right)$$

$$(15) \quad 4(x+5) - 2 = -10$$

$$4x + 20 - 2 = -10$$

$$\begin{array}{r} 4x + 18 = -10 \\ -18 \quad -18 \end{array}$$

$$\frac{4x}{4} = \frac{-28}{4}$$

$$\left(x = -7 \right)$$

$$(16) \quad 4(x+5) - 2(x-6)$$

$$\begin{array}{r} 4x + 20 = 2x - 12 \\ -2x \end{array}$$

$$-2x$$

$$\begin{array}{r} 2x + 20 = -12 \\ -20 \quad -20 \end{array}$$

$$\frac{2x}{2} = \frac{-32}{2}$$

$$\left(x = -16 \right)$$

$$(17) \quad \frac{2}{3}x = \frac{4}{5}$$

$$\cancel{\frac{2}{2}} \cdot \cancel{\frac{2}{2}} x = \frac{3}{2} \cdot \frac{4}{5}$$

$$x = \frac{3 \cdot 4}{2 \cdot 5}$$

$$x = \frac{(3) \cdot (2)}{1 \cdot (5)}$$

$$x = \frac{6}{5}$$

$$(18) \quad \frac{-3x}{-3} = \frac{6}{-3}$$

$$x = \frac{6}{5} \div (-3)$$

$$x = \frac{6}{5} \cdot \frac{1}{-3}$$

$$x = -\frac{6 \cdot 1}{5 \cdot 3}$$

$$x = -\frac{2 \cdot \cancel{3} \cdot 1}{5 \cdot \cancel{3}}$$

$$x = -\frac{2}{5}$$

$$(19) \quad \frac{4x-5}{-7x} > \frac{2x+7}{-2x}$$

$$2x-5 > 7$$

$$+5 \quad +5$$

$$\frac{2x}{2} > \frac{12}{2}$$

$$x > 6$$

$$(20) \quad \frac{-x+5}{-5} < \frac{-3}{-5}$$

$$-x < -8$$

$$\frac{-1 \cdot x}{-1} < \frac{-8}{-1}$$

$$x > 8$$

$$(21) \quad -3(x+4) \leq 6$$

$$\frac{-3x-12}{+12 \quad +12} \leq 6$$

$$\frac{-3x}{-3} \leq \frac{18}{-3}$$

$$x \geq -6$$

$$(22) \quad \begin{array}{r} 5x - 10 \\ -3x \end{array} \geq \begin{array}{r} 3x + 8 \\ -3x \end{array}$$

$$\begin{array}{r} 2x - 10 \\ +10 \end{array} \geq \begin{array}{r} 8 \\ +10 \end{array}$$

$$\frac{2x}{2} \geq \frac{18}{2}$$

$$x \geq 9$$

$$(23) \quad \begin{array}{r} 3x - 11 \\ +11 \end{array} \geq \begin{array}{r} -5 \\ +11 \end{array}$$

$$\begin{array}{r} 3x \\ \overline{3} \end{array} \geq \begin{array}{r} 6 \\ \overline{3} \end{array}$$

$$x \geq 2$$

$$(24) \quad \begin{array}{r} -2x + 8 \\ -8 \end{array} < \begin{array}{r} 2 \\ -8 \end{array}$$

$$\begin{array}{r} -2x \\ \overline{-2} \end{array} < \begin{array}{r} -6 \\ \overline{-2} \end{array}$$

$$x > 3$$