

MTH 06, Test 1, V. 2, 09/20/21

Prof. Luis Fernández

NAME: _____

There are 22 questions. Some are multiple choice and some are free response.
Each question is worth 5 points over 100 (so 10 points are extra credit).
For multiple-choice questions, just circle your answer.
For free-response questions, SHOW ALL WORK to receive credit.

1. Simplify: $\frac{1}{8} + \frac{1}{12} - \frac{1}{16} =$

2. Evaluate the expressions for $x = 6$, $y = 9$, and $z = 5$.

$$x + 6 = \underline{\hspace{2cm}}$$

$$2z - 6 = \underline{\hspace{2cm}}$$

$$xyz = \underline{\hspace{2cm}}$$

$$y + z = \underline{\hspace{2cm}}$$

3. Use the formula $F = \frac{9}{5}C + 32$ for converting degrees Celsius into degrees Fahrenheit to find the Fahrenheit measure of the Celsius temperature $C = 25$. **Circle the answer.**

4. Simplify: $\frac{4}{5} \cdot \frac{7}{16} =$

- (a) 37
- (b) 257
- (c) 77
- (d) 51.4

5. Simplify: $4 \cdot \frac{5}{8} =$

6. Evaluate the expression:
 $9 + 3 \cdot 7 - (8 + 3 \cdot 6) =$

7. Evaluate: $13 - 3(8 - 4) =$

8. Solve: $3(7x + 1) = 4(5x + 1) + 14$.
Circle the answer.

(a) -13

(b) $\frac{21}{41}$

(c) $\frac{9}{20}$

(d) 15

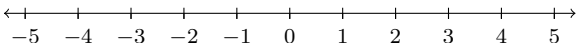
9. Solve the equation $8x - 7 = 2x - 3$.

10. Solve the inequality and express the answer as an interval.

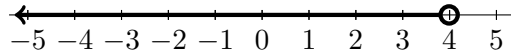
$$x - \frac{4}{5} > \frac{6}{5}x - 2.$$

11. Solve the inequality and express the answer on the number line provided

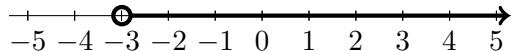
$$6x - 14 + 2(x - 5) < 0.$$



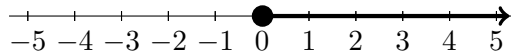
12. Express each graph below as an inequality using the variable x . Enter your answers as “ $x >$ number”, or “ $x <$ number”, or “ $x \geq$ number”, or “ $x \leq$ number”, as appropriate.



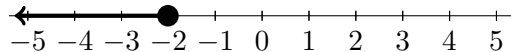
Inequality: _____



Inequality: _____



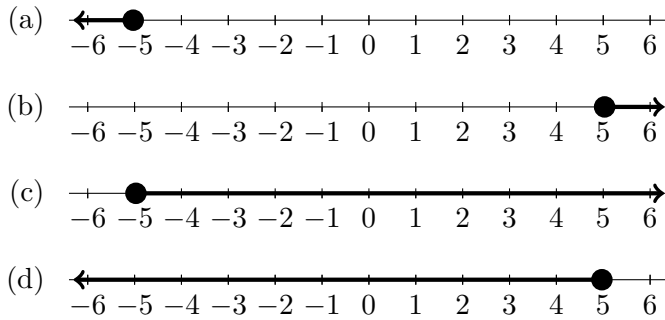
Inequality: _____



Inequality: _____

13. Circle the graph of the solution to the inequality:

$$-1 - (-2 + x) \leq 3x + 21$$



14. Solve for x .

$$\frac{10}{3}x + \frac{1}{6} = \frac{7}{3}x + \frac{37}{6}$$

15. The volume of a pyramid is given by the equation

$$V = \frac{1}{3}Bh.$$

Solve for B .

16. Solve for y :

$$z = 4x + 9y.$$

- (a) $y = \frac{z + 4x}{9}$
- (b) $y = 9(z - 4x)$
- (c) $y = \frac{z}{9} - 4x$
- (d) $y = \frac{z - 4x}{9}$

17. Solve for s when $tw = 6s - a$.

Circle the answer.

(a) $s = -\frac{tw}{a}$

(b) $s = tw - a$

(c) $s = tw - a$

(d) $s = \frac{tw + a}{6}$

18. Find

$$38 - (-30) + (-15) - 63.$$

19. Solve the equation $8x + 10 = -7$.

20. Divide or state that the division is undefined:
(Note: Your answer must be a fraction.)

$$-\frac{3}{2} \div \left(-\frac{9}{4}\right) =$$

$$15 \div \left(-\frac{3}{2}\right) =$$

21. Solve for C in the formula $F = \frac{9}{5}C + 32$.

22. Solve the equation $|x - 2| = 3$.