

# MTH 06, Test 1, V. 4, 09/20/21

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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. 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.**

(a) 51.4

(b) 257

(c) 37

(d) 77

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

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

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

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

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

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

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

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

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

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

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

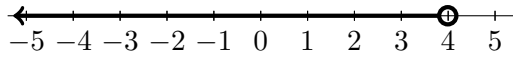
(a) 15

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

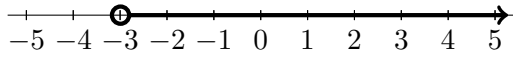
(c) -13

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

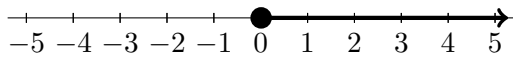
9. Express each graph below as an inequality using the variable  $x$ . Enter your answers as " $x >$  number", or " $x <$  number", or " $x \geq$  number", or " $x \leq$  number", as appropriate.



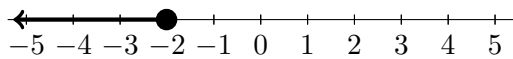
Inequality: \_\_\_\_\_



Inequality: \_\_\_\_\_



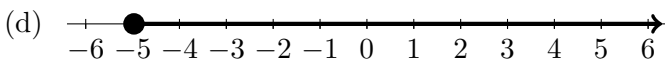
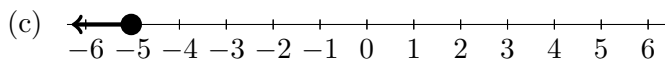
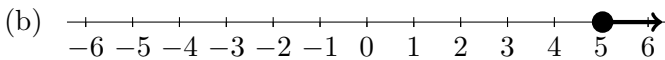
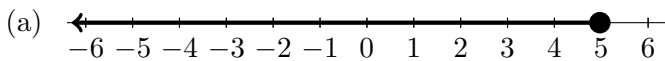
Inequality: \_\_\_\_\_



Inequality: \_\_\_\_\_

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

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



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

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

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

- 13.** The volume of a pyramid is given by the equation

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

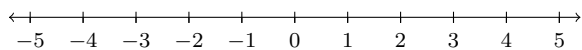
Solve for  $B$ .

- 14.** Solve for  $x$ .

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

- 15.** Solve the inequality and express the answer on the number line provided

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



- 16.** Solve for  $y$ :

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

(a)  $y = \frac{z - 4x}{9}$

(b)  $y = 9(z - 4x)$

(c)  $y = \frac{z + 4x}{9}$

(d)  $y = \frac{z}{9} - 4x$

17. Find

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

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

**Circle the answer.**

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

(b)  $s = tw - a$

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

(d)  $s = tw - a$

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

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

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

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

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

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