

# MTH 05, Test 1, V. 2, 09/27/18

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NAME: \_\_\_\_\_

There are 20 questions. The 14 multiple choice are worth 5 points each; the 6 free response are worth 6 points each. For multiple-choice questions, circle your answer. For free-response questions, SHOW ALL WORK to receive full credit.

1. Add:  $\frac{7}{9} + \frac{5}{12} =$

(a)  $\frac{43}{36}$

(b)  $\frac{31}{12}$

(c)  $\frac{13}{3}$

(d)  $\frac{12}{21}$

2. Evaluate  $\frac{6 - 5xy}{2x + y}$  when  $x = 3$  and  $y = -4$ .

(a)  $-\frac{6}{5}$

(b) 30

(c) 33

(d) -33

3. Solve:  $3(7x + 1) = 4(5x + 1) + 14$

(a)  $x = -13$

(b)  $x = \frac{9}{20}$

(c)  $x = \frac{21}{41}$

(d)  $x = 15$

4. Find the value of:  $2(3^2 \cdot 5 - 4^2)$ .

(a) 122

(b) 58

(c) -35

(d) 28

5. Evaluate:  $\left(-\frac{10}{9}\right)\left(-\frac{6}{25}\right)$

(a)  $-\frac{60}{131}$

(b)  $\frac{4}{15}$

(c)  $\frac{125}{18}$

(d)  $-\frac{4}{15}$

6. Evaluate:  $-8^2 - \frac{3}{7} \cdot 14 =$

(a)  $-65$

(b)  $-70$

(c)  $58$

(d)  $70$

7. Solve the equation  $9x - 5 = 5x + 7$ .

(a)  $x = \frac{21}{2}$

(b)  $x = -5$

(c)  $x = 3$

(d)  $x = 4$

8. Evaluate:  $-\frac{35}{6} \div \frac{14}{9}$

(a)  $-\frac{15}{4}$

(b)  $-\frac{13}{54}$

(c)  $-\frac{77}{18}$

(d)  $-\frac{245}{27}$

9. Write the following sentence in symbols:  
*twice the sum of c and d is 5.*

(a)  $2 + c + d = 5$

(b)  $2c + d = 5$

(c)  $2d + c = 5$

(d)  $2(c + d) = 5$

10. Solve  $\frac{x}{3} + 5 = 7$

(a)  $x = \frac{2}{3}$

(b)  $-4$

(c)  $x = 6$

(d) No solution

11. Solve:  $\frac{x - 4}{3} = \frac{4}{5}$

(a)  $x = -\frac{11}{4}$

(b)  $x = 4$

(c)  $x = \frac{32}{5}$

(d)  $x = \frac{16}{5}$

12. Evaluate  $g(2)$  for the function  
 $g(x) = 3x^2 - 4x + 2$

(a) 6

(b)  $-4$

(c) 30

(d) 2

**13.** Evaluate exactly  $-b + \sqrt{b^2 - 4ac}$   
when  $a = 3$ ,  $b = 5$ ,  $c = (-2)$ .

(a)  $-4$

(b)  $-5 + \sqrt{30}$

(c)  $-2$

(d)  $2$

**14.** Ten more than twice a number is 46.  
What is the number?

(a)  $18$

(b)  $29$

(c)  $34$

(d)  $5$

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Free response questions start here. SHOW ALL WORK!!!

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**15.** Twice a number minus 7 is equal to the same  
number plus 3. What is the number?

**16.** Solve  $5(x + 2) = 2x - 7$

17. Evaluate:  $\frac{4}{5} - \frac{2}{7} \div \frac{5}{14} =$

18. Solve the equation:  $\frac{2x}{5} + \frac{7}{6} = \frac{x}{3} - 2$

19. Solve  $-5x + 1 = 17 - x$

20. Evaluate:  $\sqrt{36} + (-4)^2 =$