MTH 05, Test 1, V. 1, 09/15/17 Prof. Luis Fernández

NAME:_____

There are twenty-two questions, each worth 5 points. For multiple-choice questions, circle your answer. For free-response questions, SHOW ALL WORK to receive full credit.

1. Compute: $-6^2 - \frac{3}{5} \cdot 15 =$

(a) 45

(b) -45

(c) -27

(d) 27

2. Add: $\frac{7}{12} + \frac{3}{8} =$

(a) $\frac{5}{12}$

(b) $\frac{23}{24}$

(c) $\frac{5}{6}$

(d) $\frac{1}{2}$

3. Solve the equation $3(7 - n) = 5n - 11$.

(a) $n = 4$

(b) $n = 16$

(c) $n = -4$

(d) $n = -5$

4. Evaluate $\frac{10 - 2xy}{x + y}$ when $x = 8$ and $y = -5$.

(a) $-\frac{70}{13}$

(b) $\frac{90}{13}$

(c) $-\frac{70}{3}$

(d) 30

5. Evaluate $-2x^2 + 3x - 2$ when $x = 3$.

(a) -11

(b) 25

(c) -29

(d) 43

6. Evaluate: $|5 - 2 \cdot 4|$

(a) 3

(b) -12

(c) 12

(d) -3

7. Evaluate $8 - 5(3 - 1)$

(a) -2

(b) 10

(c) 6

(d) -8

8. Solve $3x = 2x - 18$

(a) no solution

(b) 18

(c) -18

(d) $-\frac{18}{5}$

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

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

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

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

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

10. Solve: $\frac{x-2}{3} = \frac{3}{4}$

(a) $x = \frac{17}{4}$

(b) $x = \frac{16}{3}$

(c) $x = \frac{11}{4}$

(d) $x = 3$

11. Evaluate: $-\frac{14}{15} \div \frac{21}{25}$

(a) $-\frac{98}{125}$

(b) $-\frac{10}{9}$

(c) $\frac{7}{75}$

(d) $-\frac{63}{70}$

12. Evaluate exactly $-b + \sqrt{b^2 - 4ac}$ when $a = 2$, $b = 7$, $c = 3$.

(a) -2

(b) 12

(c) 2

(d) $2 + \sqrt{45}$

13. Solve: $\dfrac{3x}{4} = \dfrac{15}{8}$

(a) $x = \dfrac{4}{3}$

(b) $x = -\dfrac{7}{2}$

(c) $x = \dfrac{9}{8}$

(d) $x = \dfrac{5}{2}$

14. If $g = 3x^2 - 4x + 2$,
find the value of g when $x = 3$.

(a) 37

(b) 17

(c) 0

(d) -17

15. If $y = 2x^2 + x + 5$,
find y when $x = -2$.

(a) 5

(b) 11

(c) -1

(d) -5

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

16. Solve $x + 2(3x - 1) = -5(x - 2) + 12$

17. Solve $7(x - 4) = 5x + 9$

18. Solve $-9x + 2 = 38 - 3x$

19. Solve the equation: $5x - 2(x+1) = 4 + 2(x-3)$

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

21. Solve the equation: $\dfrac{2(x-3)}{5} + \dfrac{7}{6} = \dfrac{2x}{3} - 2$

22. Evaluate: $\dfrac{4}{5} - \dfrac{2}{7} \div \dfrac{5}{14} =$