

MTH070 Review Problems for Test 2 - MLC

This is not a sample test. These problems are designed to get you started on your review for the test. Study the homework from the textbook and your class notes for a more complete review.

Section 4.1

1. Simplify: a) $-5(3x-2)+4$ b) $-2-(4x-3)$

Section 4.2

2. Simplify: a) $6-2x+5y+7x$ b) $-3(x-2)-5(x+3)$ c) $5x-\frac{1}{2}(6x+4)$

Section 4.3

3. Solve: a) $-2(x-4)=0$ b) $-\frac{3}{5}x=-6$ c) $-4=\frac{2x}{3}$

Section 4.4

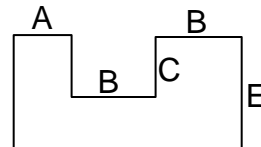
4. Solve: a) $3x=2(5x+4)+6$ b) $2x+4=5x+16$ c) $\frac{5}{2}x-\frac{5}{3}=\frac{10}{3}$

5. Solve using the "intersect" feature on a graphing calculator. Round your answer to three decimal places.

a) $5.27x-6.35=2.71x+9.89$ b) $\frac{2}{5}x-4=2x-\frac{3}{4}$

Section 4.6

6. Find a formula for the perimeter of the polygon at the right.



7. Substitute the given values for the variables and then solve the equation for the remaining variable.

$$\frac{x}{a} + \frac{y}{a} = 1 \quad a = 3, y = 6$$

8. A rectangular room has a length of 15 feet and an area of 540 square feet. What is the width of the room?

Section 5.1

9. For each of the equations, determine the slope and the y-intercept. Use the slope and the y-intercept to graph the equations by hand.

a) $y = -\frac{1}{2}x + 3$ b) $5x - 3y - 12 = 0$

10. Find the x -intercept and y -intercept, then graph the equations by hand. Show your work.

a) $2y - 6x = -6$

b) $3y + x - 6 = 0$

Section 5.2

11. Find an equation of the line that has the given slope and contains the given point. Write the equation in slope-intercept form. Show your work.

a) $m = 2, (5, 6)$

b) $m = -3, (2, -4)$

12. Find an equation of the line that passes through the two given points. Show your work. Do not use linear regression.

a) $(2, 5)$ and $(1, 7)$

b) $(-5, -9)$ and $(-2, -3)$

13. Find an equation of a line that contains the point $(-4, 3)$ and is perpendicular to the graph of $x - 2y = 8$. Show your work.

Section 5.3

14. The number of firearm-related deaths in the United States has decreased approximately linearly from about 44 (thousands) in 1993 to about 28 (thousands) in 2001. Let d be the average number of firearm-related deaths in the year that is t years since 1990. Find an equation of a linear model to describe the data. Show your work. Do not use linear regression.

15. Do problem #48 on page 281. Use linear regression on a graphing calculator for part b.

Section 5.5

16. Solve the inequalities. Describe the solution as an inequality, in interval notation, and in a graph.

a) $5 - 3x \leq -2$

b) $4.6 - 3.5x \geq 7.12$

c) $3(5x + 1) > 4(3x + 6)$