

MATH 120
HANDOUT #1 (Chapter 1)

1. Find the slope of the line that passes through the points $(-4, 10)$ and $(-6, -6)$

2. Determine whether the lines below are perpendicular, parallel, coincident, or none of these.
 $-x + 2y = 1$ $4x + 2y = 9$

3. Find the equation of the line that is parallel to $y = 4x$ and contains the point $(4, 3)$.

4. Use whatever methods you prefer to determine which of the figures is the appropriate graph of the lines L and M

Fig.1

Fig.2

Fig.3

Fig.4

Fig.5

Choose the figure that represents the pair of lines:

$L: 6x + 3y = -12$
 $M: 4x - 8y = 0$

5. Find the equation of the vertical line that contains the point $(-3, 12)$.

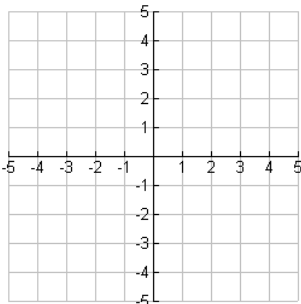
6. Find the equation of the line with no slope that passes through the points $(1, 7)$ and $(-4, 7)$.

7. Identify the slope and y-intercept of the line $5x - 2y = 8$

Slope:

Y-intercept: (,)

8. Graph the line $\frac{1}{3}y + x = \frac{1}{3}$



9. A company finds that the number of T-shirts it sells the first month the product is introduced is related to the amount they spend on advertising the product. If they spend \$40 thousand on advertising, 10 thousand will be sold. However, spending \$60 thousand on advertising leads to 14 thousand sold.

A. Develop a linear equation in slope-intercept form that describes the relationship between amount spent on advertising in thousands (x) and how many shirts will sell in thousands (y).

B. How much should be spent on advertising if the company's goal is to sell 20 thousand shirts?

10. "Isle" is a company that produces longboards for surfing. At one of their manufacturing centers, they have fixed costs of \$1275 per day and variable costs of \$190 per longboard. Each board then sells for \$445 online.

A. (3 points) Letting x represent the number of boards produced by the company, develop the linear cost function, C , for this company.

B. (2 points) Now also develop the linear Revenue function, R , for this company.

C. (2 points) Determine the number of items they need to sell so that they break even financially.

11. The supply quantity of sugar can be defined by the linear supply function $S = 0.7p + 0.4$, where p represents the price. When sugar is priced at \$2, the consumer demand is only 0.6. Market price for sugar is \$1. Develop the linear demand equation, D , for sugar.