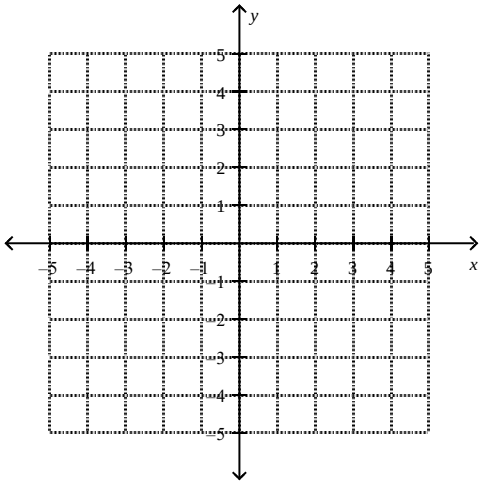
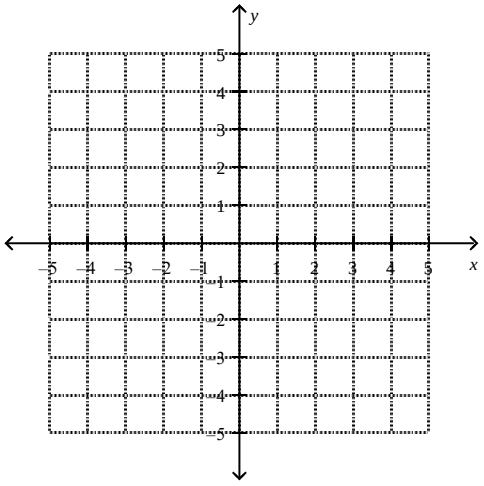
Graph the linear equations: (Hint: identify the slope and *y*-intercept)

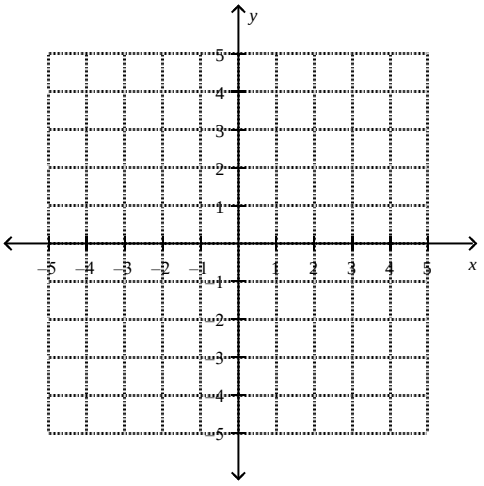
1. Graph: $y = \frac{1}{3}x - 2$.



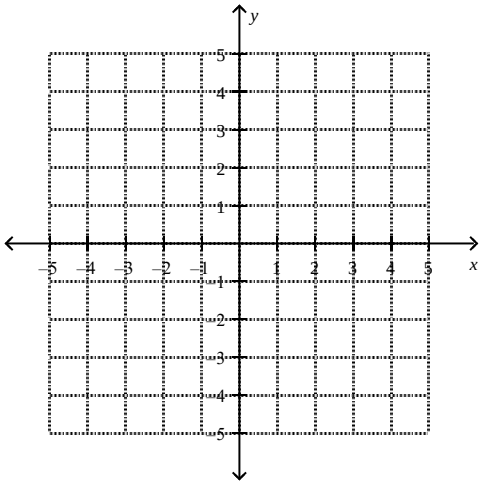
2. Graph: $y = -x + 5$.



3. Graph: $y = -\frac{3}{2}x + 3$



4. $y = 3x - 1$



Rewrite the equation so that y is a function of x Give the slope, y-intercept, and graph the equation	A) $-4x + y = 9$	B) $-19x + 9y = 8x - 9$
	C) $-3x + 7y - 7 = -1 - 8y$	D) $8x + 2(y + 13) = 10$

Rewrite the equation so that y is a function of x Then use the result to find y when x = -5, -1, 2, 4	1. $y - 4x = 9$	2. $6y - 6x = 15$
	3. $4 - y = 7x$	4. $5y - 5 = 6x$
	5. $2x + y = 4$	6. $5x - 5y = 15$

Rewrite the equation so that y is a function of x	1. $\frac{1}{3}y - 5 = 6x$ 2. $\frac{4}{5}y - 2 = -3x$ 3. $\frac{7x}{2} + \frac{1}{9}y = -5$ 4. $\frac{11}{3}x - \frac{2}{7}y = 2$

Rewrite the following equations in slope intercept form (y = mx + b)	1. $y - 2 = 5(x - 1)$ 2. $y - 1 = -4(x + 1)$ 3. $y + 4 = -3(x - 1)$

Solve $C = 2\pi r$ for r 1. If a circular pool is 100 ft around, what is the pools radius. Solve $A = lw$ for l 1. If the width of a rectangular sandbox is 20 feet, what length is required to obtain an area of 300 square feet.	For each of the following geometric formulas, Solve for the stated variable and answer the questions.

2. If the width of the sandbox was to decrease and the area was to remain 200 square feet, how would the length change? Solve P = 2l + 2w for l 1. If you have 100 feet of lumber to construct the sides of a sandbox, and the width is set at 25 feet, how long can the sandbox be? 2. If the width of the sandbox was to increase, but the perimeter was to remain at 100 feet, how would the length have to change?	

Solve V=lwh for w

1. In designing a box to have a volume of 500 cm3, length 10, and height 15, what is the width?

2. If the volume of the box was to increase, but the length and height were to remain unchanged, how would the width have to change?

Solve $A=\frac{1}{2}bh$ for h

a. If a triangle has an Area of 100 cm and a base of 20 cm what will the height of the be.

Solve $A=\frac{1}{2}h(b_1+b_2)$ for b_2

a. If a trapezoid has an area of 200 cm, a height of 10 cm, and a base of 5 cm, how big must the other base be.

Solving Proportions

Solve the following proportions.

1. $\frac{3}{4}=\frac{x}{8}$ 2. $\frac{2}{5}=\frac{8}{x}$ 3. $\frac{x}{6}=\frac{10}{3}$ 4. $\frac{3}{x}=\frac{9}{5}$

Solve the following proportions.

1. $\frac{3}{4}=\frac{x-2}{8}$ 2. $\frac{2}{5}=\frac{8}{x-4}$

3. $\frac{2x-3}{3}=\frac{9}{3}$ 4. $\frac{4}{3x-2}=\frac{2}{5}$

Solve the following proportions.

1. $\frac{3x}{4} = \frac{x-5}{3}$

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

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

4. $\frac{4}{3x-20} = \frac{2}{5x}$

Solve the following proportions.

1. $\frac{3x+1}{x-5}=\frac{4}{3}$

2. $\frac{2}{3}=\frac{2x+3}{x-4}$

3. $\frac{4x-3}{5x+2}=\frac{2}{3}$

4. $\frac{4x+1}{3x-20}=\frac{2}{5}$

Set up a proportion to solve each problem, show all work, and label all answers.

1. The ratio of boys to girls is 4 to 3. If there are 36 boys, how many girls are there?

2. At a recent party, it cost $11.50 for refreshments for 6 guests. At this rate, how much would it cost to have refreshments for 80 guests?

3. Mr. Johnson was paid $2250 for a job that required 30 hours of work. At this rate, how much should he be paid for a job requiring 45 hours of work?

4. If a jogger runs 3 miles and burns 221 calories, how many calories would he burn jogging 4 miles?

5. Central High School has 1675 students. The student to teacher ratio is 21 to 1. How many teachers are at Central High School?

6. A recipe calls for $2\frac{3}{4}$ cups of flour to make 2 dozen cookies. How many cups of flour would be required to bake 11 dozen cookies?