

You only have to solve some of the problems, as shown. For those, show your work, and check your answer.

**Classwork: Word problem Wednesday**

1. At college, the phone company charges \$55 for installation plus \$30 per month. The total you saved over the summer for service was \$235. How many months can you pay for?

(a) Mark the text of the problem and then complete the values:

Starting point = \_\_\_\_\_

Rate of change = \_\_\_\_\_

Total = \_\_\_\_\_

(b) Write an equation for the problem of the form  $y = mx + b$

2. An acting consultant charges \$75 for an initial meeting plus \$25 per hour for consulting work. Your uncle gave you \$200 for acting lessons. How many hours work can you afford?

(a) Initial amount = \_\_\_\_\_

Rate of change = \_\_\_\_\_

Total = \_\_\_\_\_

(b) Write an equation for the problem of the form  $y = mx + b$

3. A cleaner charges \$50 per day plus \$15 per hour. If you allow \$200 for cleaning expenses, how many hours work can you tell the cleaner to expect?

(a) Initial point = \_\_\_\_\_

Rate of change = \_\_\_\_\_

Total = \_\_\_\_\_

(b) Write an equation for the problem of the form  $y = mx + b$

4. A DJ charges \$250 to play for a party plus \$120 per hour. The total for the BECA graduation party was \$850. How many hours did the band play?

(a) Mark the text of the problem and then complete the values:

Starting point = \_\_\_\_\_

Rate of change = \_\_\_\_\_

Total = \_\_\_\_\_

(b) Write an equation for the problem of the form  $y = mx + b$

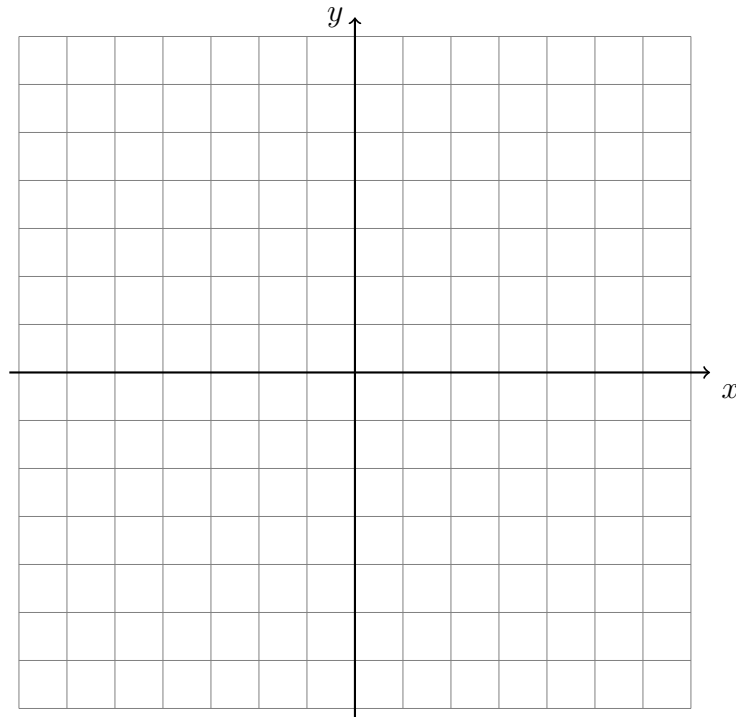
(c) Solve the equation for  $x$

(d) Check the answer

5. Graph the line  $y = \frac{2}{3}x - 2$  after filling in the values in the blanks.

$y$ -intercept = \_\_\_\_\_

Slope = \_\_\_\_\_

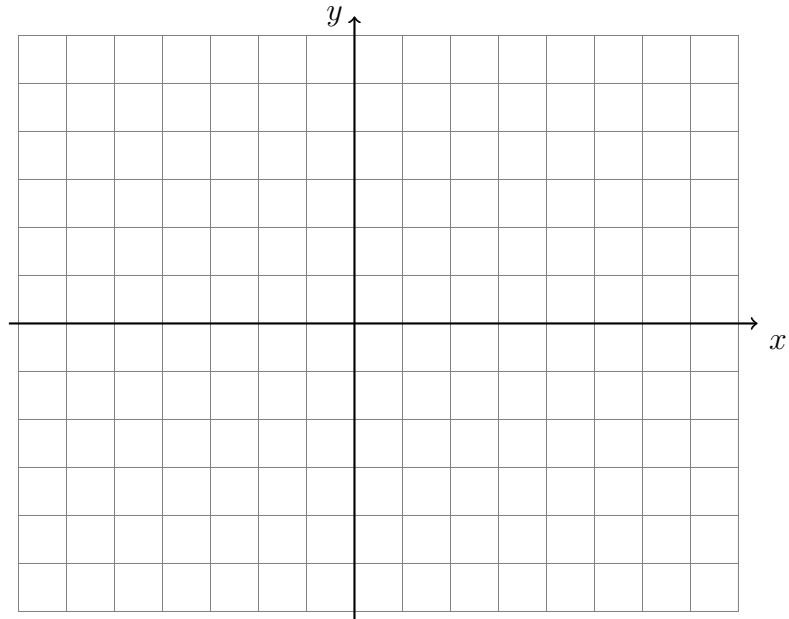


In the following two problems, solve for the value of  $x$ .

6.  $12 = 5x - x$

7.  $\frac{1}{4}(12 - 8x) = x$

- |     |                   |
|-----|-------------------|
| $x$ | $y =  x - 1  - 2$ |
|-----|-------------------|



- $$x_2 =$$

- In the following two problems, simplify by collecting like terms.

10.  $4(a^2 - 2a + 1) - 3(a^2 - a + 2)$

11. After lunch on the day of the math test, Dr. Huson took 12 students for dessert. Some students wanted a snow cone, which cost \$2.50 each, and the others got cake, which cost \$3.00 each. The total cost was \$31.00. (Dr. Huson did not eat) How many students got each kind of dessert?

Use  $x$  for the number of snow cone orders and  $y$  for the number of cake orders.

- (a) Complete the table of costs below. (the first row is done as a hint)

$x$	$y$	cost for snow cones	cost for cake	total cost
0	12	\$0.00	\$36.00	\$36.00
2	10			
4	8			
6	6			
8	4			
10	2			
12	0			

- (b) Complete the two equations modeling the situation, one adding up to 12 people, the other adding up to \$31.00.

$$x + y = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times x + \underline{\hspace{2cm}} \times y = \underline{\hspace{2cm}}$$

- (c) Circle the row in the table that has the correct total. Write down how many students wanted ice cream and pie ( $x$  and  $y$ ).

$$x = \underline{\hspace{2cm}}$$

$$y = \underline{\hspace{2cm}}$$

- (d) Check your answer.

Distribute

12.  $(x + 2)(x + 3)$

Factor each expression

14.  $x^2 + 8x + 7$

13.  $(x + 4)(x + 4)$

15.  $x^2 + 7x + 10$

Solve for the value of  $x$ .

16.  $5 = \frac{1}{2}x + 2x - 10$

17. Given  $f(x) = 3x + 5$ . Simplify  $f(3)$ .

18. Given  $f(x) = -\frac{(6 + 3x)}{13}$ . Simplify  $f(-2)$ .