

1. Match each equation with an appropriate table and graph.

a. $y = \left(\frac{1}{2}\right)^x$

Matches: _____

b. $f(x) = -3x$

Matches: _____

c. $g(x) = (x + 4)^2 - 2$

Matches: _____

d.

x	y
-2	6
-1	3
0	0
1	-3
2	-6

e.

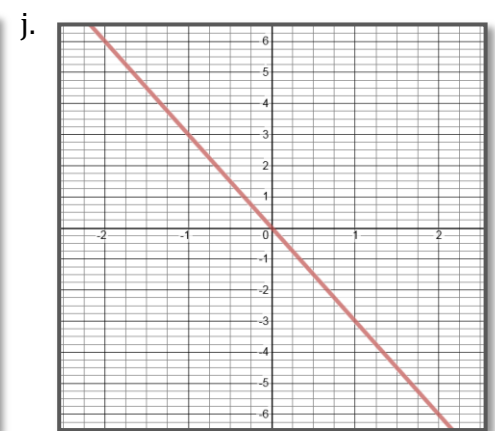
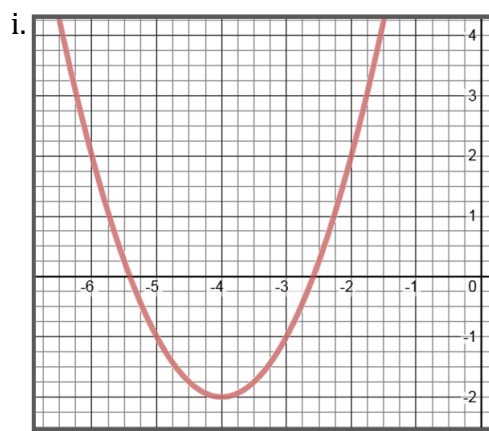
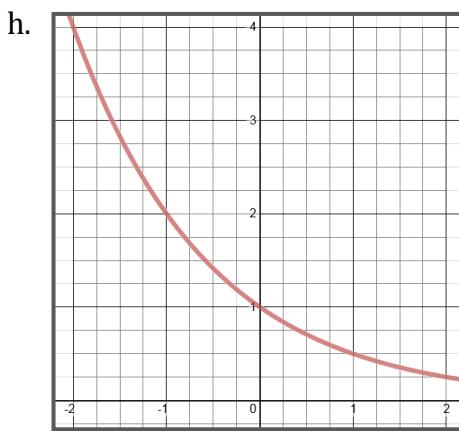
x	y
-6	-2
-5	1
-4	2
-3	1
-2	-2

f.

x	y
-6	2
-5	-1
-4	-2
-3	-1
-2	2

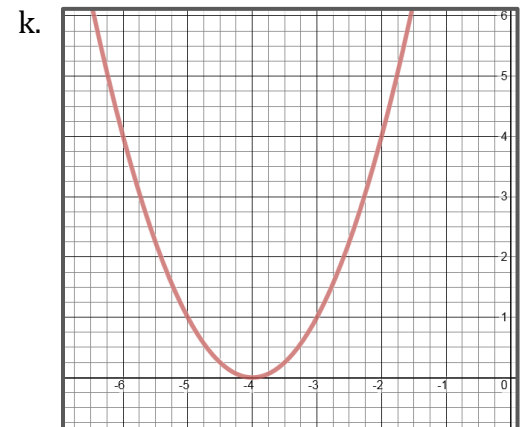
g.

x	y
-2	4
-1	2
0	1
1	0.5
2	0.25



2. $f(x) = (2x - 3)(x + 4)$
 a. Find the x - intercepts for $f(x)$.

b. Rewrite $f(x)$ Standard Form.

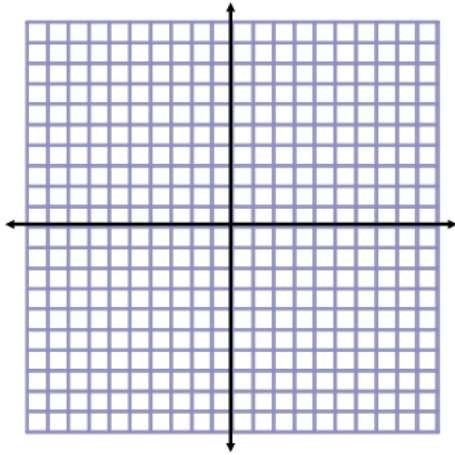


c. Use the quadratic formula to verify your answers from part a.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

3. a. Solve the system of equations graphically.

$$x = -5$$
$$y = \frac{3}{5}x + 6$$



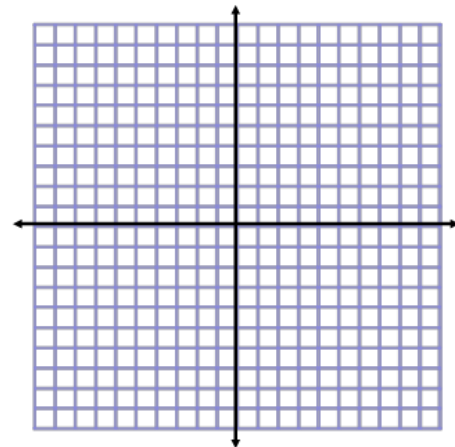
Solution: _____

b. Solve the system of equations algebraically.

$$x = -5$$
$$y = \frac{3}{5}x + 6$$

4. Graph a system of equations that has no solution.

5. Write an equation for each line you graphed in #4.



6. Numerous companies now offer chip timing services for cross country races. Each runner wears a chip.

Super Sacco Systems
\$2800 service charge

ACME Timing Company
\$3.00 per runner

Champ's Chips
\$2.00 per runner
\$500 service charge

a. Write an equation that expresses each company's cost as a function of the number of runners in any given race.

b. The Spartan Invitational has 1000 runners. Which timing company would you hire? Be sure to justify your answer with work.