Practice – Solving Quadratics by Factoring

Solve the equations below by factoring.

1. $(3x-2)(4x-3)=0$

2. $4x^2-6x+9=6x$

3. $x^2=8x-16$

4. $12x^2-1=-x$

5. $\frac{x^2}{6}+\frac{x}{3}=\frac{5}{2}$

6. $x^3-49x=0$

Given the roots find the quadratic equation.

7. $x:\{-3,7\}$

8. $x:\left\{-\frac{2}{5},4\right\}$

9. The table below contains values for x and y in a quadratic function.

x	-3	-2	-1	0	1	2	3
y	6	0	-4	-6	-6	-4	0

Which function best represents the relationship between the quantities in the table?

A $f(x)=x^2+x-6$

B $f(x)=-12x-2$

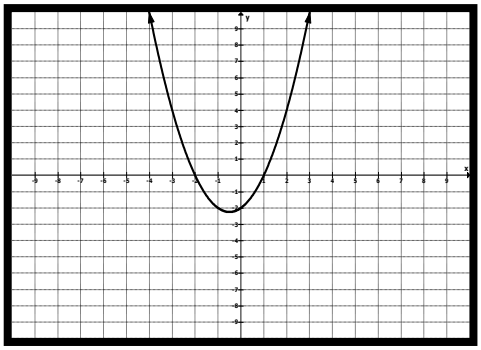
C $f(x)=x^2-x-6$

D $f(x)=-x-2$

Solve the problems below by factoring.

10. The polynomial $3x^2 - 11x - 4$ is modeled below using algebraic tiles. What are the solutions to the equation $3x^2 - 11x = 4$?

11. Which equation best represents the graph shown.



A $(x-2)(x+1)=y$
B $(x+2)(x+1)=y$
C $(x+2)(x-1)=y$
D $(x-2)(x-1)=y$

12. If $(2x-2)(2-x)=0$, what are all the possible values of x?
    A 0 only
    B 1 only
    C 2 only
    D 1 and 2 only
    E 0, 1 and 2

13. The area of a rectangular floor is described by the equation $w(w-9)=252$ where w is the width of the floor in meters. What is the width of the floor?

14. A group of friends try to keep a beanbag from touching the ground without using their hands. Once the beanbag has been kicked, its height can be modeled by $h=-16t^2+14t+2$, where h is the height in feet above the ground and t is the time in seconds. Find the time it takes the beanbag to reach the ground.

15. Can you solve $(x-2)(x+3)=5$ by solving $x-2=5$ and $x+3=5$? Why or why not?