

Find the coordinates of the intercept points of the function

$$f(x) = -2x^2 + 14x - 24 .$$

- The *y-intercept* is easy; it is $(0, f(0)) = (0, -24)$.
- The *x-intercepts* are found by solving the equation $f(x) = -2x^2 + 14x - 24 = 0$.
- $-2x^2 + 14x - 24 = 0 \Rightarrow x^2 - 7x + 12 = 0 \Rightarrow (x-4)(x-3) = 0$

- Since $x=4$ or $x=3$,

the *x-intercepts* are

$(4,0)$ and $(3,0)$

Note: If we couldn't solve exactly the equation $f(x)=0$, we could use the grapher and trace to approximate the values of the *x-intercepts*.

