Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Kwadratycks Reevyou**



1. $y=-\frac{1}{2}(x-2)(x+5)$

Does it open up or down?

Is it fatter or skinnier than *y* = *x*2?

Find:

*x* intercepts:

Axis of symmetry:

Graph it!

Domain:

Range:

*y* intercept:

Vertex:



1. $y=2x^{2}+2x-24$

Does it open up or down?

Is it fatter or skinnier than *y* = *x*2?

Find:

*x* intercepts:

Axis of symmetry:

Graph it!

Domain:

Range:

*y* intercept:

Vertex:



1. $y=\frac{1}{4}(x-5)^{2}+1$

Does it open up or down?

Is it fatter or skinnier than *y* = *x*2?

Find:

Axis of symmetry:

Graph it!

Domain:

Range:

*y* intercept:

Vertex:

1. Find the equations for the following graphs in
* Factored form and
* Vertex form

 

1. A grasshopper jumps off a rock and his path is modeled by the equation

$$h=-2t^{2}+7t+12$$

where *h* is the height in centimetres and *t* is the time in seconds.

1. How long is the grasshopper in the air?
2. What is the highest point of his leap?
3. How high is the rock?
4. When is it 10 cm above the ground?
5. A farmer wants to make a rectangular pen for his sheep. He has 60m fencing material to cover three sides with the other side being a brick wall. He wants to use the fencing material to maximize the space for his sheep. How should he choose length and width of the pen to achieve his objective?
6. A kangaroo kicks a ball and it lands 20 metres from where he kicked it. If it reaches a maximum height of 7 m, write an equation to model the path of the ball.
7. Anton throws a rock off a 12 m cliff. It reaches a maximum height of 20 m from the bottom of the cliff when it is 8 m from the base of the cliff. Write an equation to model the path of the rock.

How far from the base of the cliff does it land? (Hint: Use Desmos)

1. Use the quadratic formula to solve the following equations:
2. $2x^{2}+7x+4=0$
3. $-3x^{2}-7x+25=0$