

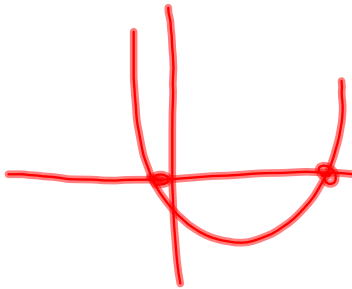
1 The number of x-intercepts for a quadratic function with the discriminant greater than zero is...

A more than two

B two

C one

D none



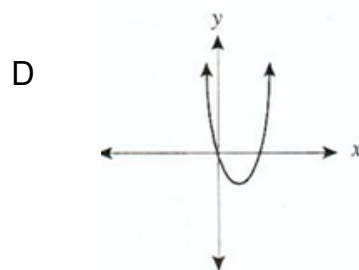
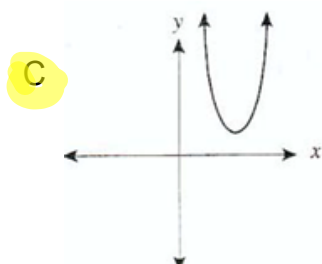
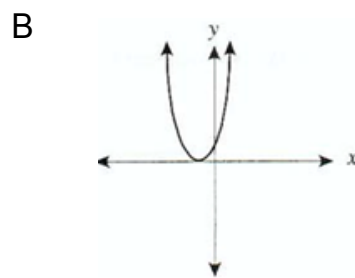
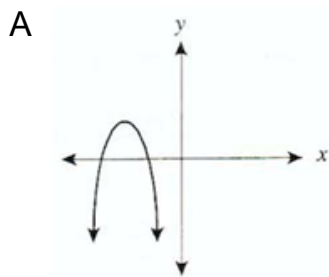
2 Describe the nature of the roots given the following quadratic...

$$y = -4x^2 - 12x - 5$$

- A 2 non-real & unequal roots
- B 1 real root
- C 2 real, irrational and unequal roots
- D 2 real, rational and unequal roots**

$$\begin{aligned}d &= (-12)^2 - 4(-4)(-5) \\d &= 144 - 80 \\d &= 64\end{aligned}$$

3 The discriminant of a quadratic function is negative. The graph that could represent the function is...



4 In the equation $y = 2x^2 - 4kx + 6$, a possible value of k that will produce **2 real and equal roots** is...

$$\begin{aligned} a &= 2 \\ b &= -4k \\ c &= 6 \end{aligned}$$

$$D = 0$$

- A $-\sqrt{3}$
- B 1
- C $2\sqrt{3}$
- D -2

$$(-4k)^2 - 4(2)(6) = 0$$

$$16k^2 - 48 = 0$$

$$\frac{16k^2}{16} = \frac{48}{16}$$

$$\sqrt{k^2} = \sqrt{3}$$

$$k = \pm\sqrt{3}$$

Review Unit 1 - Quadratics

PART #1

Sequences

- Linear
- Levels of Difference
- Quadratic Sequences

Quadratics

Graphing

- General Form
- Standard Form $y = a(x-h)^2 + k$
- Transformational Form (h, k)
- Mapping Notation
- Vertex (Completing the square)
- Max/Min
- Max/Min Applications
- Axis of Symmetry $x = h$
- Range

PART #2

Solving Quadratic Equations

- by: Factoring
Completing the Square
Quadratic Formula

Applied Word Problems

Nature of the Roots

Discriminant

Complex Numbers



$$(x-8)(x+5)=0$$

$$x-8=0 \quad \text{or} \quad x+5=0$$

$$x=8$$

$$x=-5$$

$$x=-5 \quad \text{or} \quad x=\frac{3}{4}$$

$$x+5=0 \quad 4x=3$$

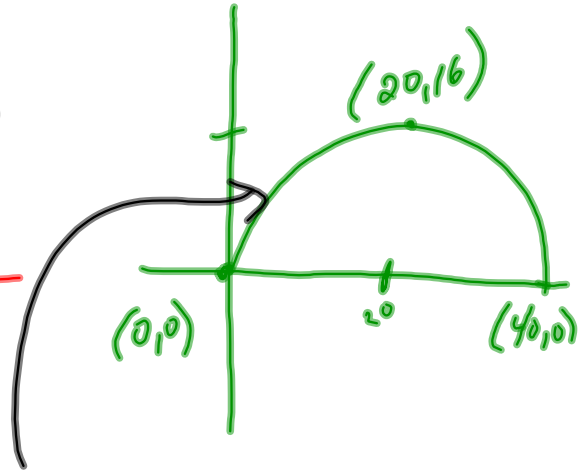
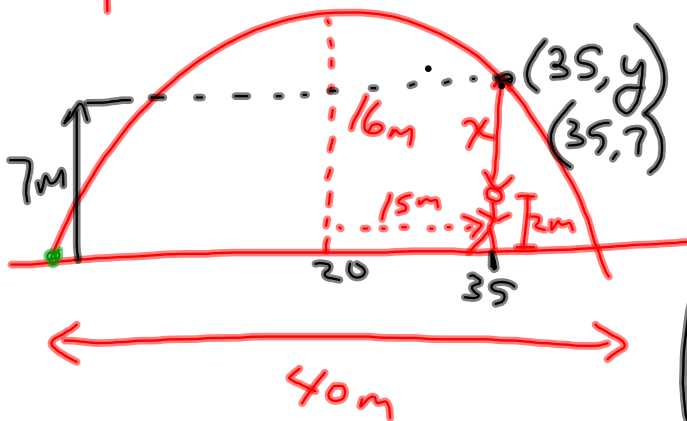
$$4x-3=0$$

$$(x+5)(4x-3)=0$$

$$4x^2-3x+20x-15=0$$

$$4x^2+17x-15=0$$

Parabolic Arch



$$y = -\frac{16}{400}(x-20)^2 + 16$$

$$y = -\frac{1}{25}(x-20)^2 + 16$$

$$y = -\frac{1}{25}(35-20)^2 + 16$$

$$y = -\frac{1}{25}(225) + 16$$

$$y = -9 + 16$$

$$y = 7$$

$$y = a(x-h)^2 + k$$

$$y = a(x-20)^2 + 16$$

$$0 = a(0-20)^2 + 16$$

$$0 = 400a + 16$$

$$\frac{-16}{400} = \frac{400a}{400}$$

$$a = -\frac{16}{400}$$

REVIEW TIME!!!

Review - Quadratics.doc

Attachments

Review - Quadratics.doc