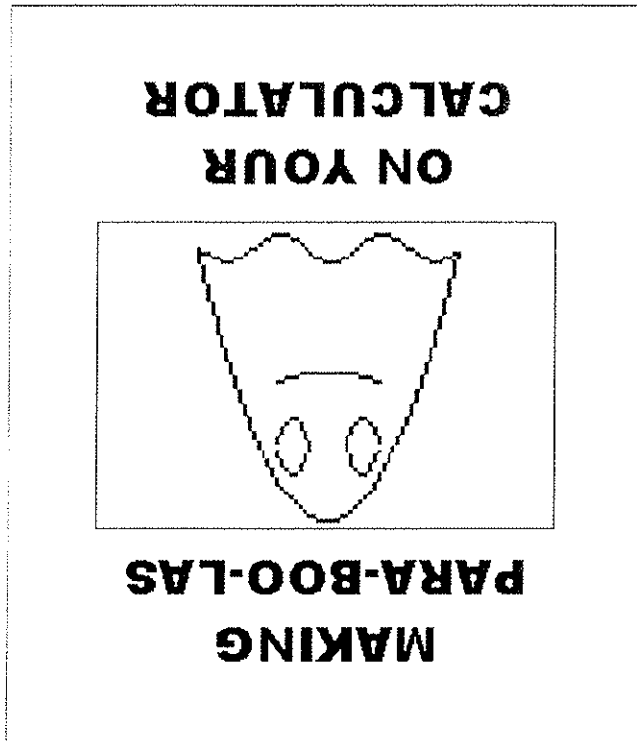


## Quadratic Real-World Exit Ticket 5

1. The height,  $h$ , in feet of an object above the ground is given by  $h(t) = -16t^2 + 64t + 190$ ,  $t \geq 0$ , where  $t$  is the time in seconds. Find the time it takes the object to strike the ground and find the maximum height of the object.





```

(WINDOW
Xmin=-25
Xmax=25
Xscl=1
Ymin=-2
Ymax=40
Yscl=1
Xres=1
Plot1 Plot2 Plot3
\Y1=2cos((π/6)X
-3)/(X≥-15 and X
≤15)
\Y2=(-8/45)X²+40
/(X≥-15 and X≤15)
Plot1 Plot2 Plot3
\Y3=(1/18)X²+18/
(X≥-6 and X≤6)
\Y4=-(X+4)²+33/(
X≥-6 and X≤-2)
\Y5=(X+4)²+25/(X
≥-6 and X≤-2)
\Y6=-(X-4)²+33/(
X≥2 and X≤6)
\Y7=(X-4)²+25/(X
≥2 and X≤6)
\Y8=
\Y9=
\Y0=
    
```

1. Press WINDOW and set the dimensions to the values shown on the left.
2. Press 2<sup>ND</sup> ZOOM to access the FORMAT menu and turn the axes off.
3. Press MODE and set your calculator to RADIAN mode.
4. Press Y= and enter in the equations shown on the left. Access the inequality signs and the AND command in the TEST menu by pressing 2<sup>ND</sup> MATH.
5. Press GRAPH to see your para-boo-la!

**Happy Halloween!**



# Cornell Notes

Name Rachel Moniton

Date 10-31-2011

Topic Alg II Quadratics

Class/Subject Bonn Per 1

Alg II

7:50

Warm-Up

Quadratic Real-World Exit Tickets  
Handout

find the maximum first  $t = \frac{-b}{2a}$   
Answers: 4 seconds to hit ground  
254 ft maximum height

Completing the Square  
HW

#4)  $x^2 - 7x = 18$       $(-\frac{7}{2}) \rightarrow (-\frac{7}{2})^2 = \frac{49}{4}$

$x^2 - 7x + \frac{49}{4} = 18 + \frac{49}{4}$

$\sqrt{(x - \frac{7}{2})^2} = \sqrt{\frac{121}{4}}$       $\frac{72 + 49}{4}$

$x - \frac{7}{2} = \pm \frac{11}{2}$

$x = \frac{7}{2} + \frac{11}{2}$

$x = \frac{7}{2} - \frac{11}{2}$

$x = \frac{18}{2} = 9$

$x = \frac{-4}{2} = -2$

#10)  $\frac{2x^2 - 12x}{2} = \frac{-14}{2}$

$x^2 - 6x = -7$

$-\frac{b}{2} = (-3) \quad (-3)^2 = 9$

$x^2 - 6x + 9 = -7 + 9$

$\sqrt{(x-3)^2} = \sqrt{2}$

$x-3 = \pm\sqrt{2}$

$x = 3 \pm \sqrt{2}$

8:15

Incomplete Quadratics p151  
 $ax^2 + c = 0$

a)  $x^2 - 16 = 0$

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

$x+4=0 \quad x-4=0$

$x=-4 \quad x=4$

HOMEWORK (11-1) pg 153-154

# Cornell Notes

Name Rachel Munton

Date 10-31-2011

Topic Alg II Quadratics

Class/Subject Bonn Alg II Per 1

cont...

#2

#3

#4

b) $2x^2 = 50$	c) $5x^2 - 8 = 12$
$\frac{2x^2}{2} = \frac{50}{2}$	$5x^2 = 20$
$\sqrt{x^2} = \sqrt{25}$	$x^2 = 4$
$x = \pm 5$	$x = \pm 2$
d) $\frac{2}{3}x^2 + 7 = 1$	
$\frac{2}{3}(\frac{2}{3})x^2 = (-6) \cdot \frac{3}{2}$	
$x^2 = -9 \Rightarrow$ no <u>REAL</u> solution	
e) $x = \pm \frac{1}{2}$	f) $x = \pm 9$
irrational # = non repeating, non ending #	
2a) $3x^2 - 5 = 19$	b) $10x^2 + 1 = 6$
$3x^2 = 24$	$10x^2 = 5$
$x^2 = 8$	$x^2 = \frac{5}{10}$
$x = \pm\sqrt{8}$	$x^2 = \pm\sqrt{\frac{1}{2}}$
$x = \pm\sqrt{4} \cdot \sqrt{2}$	$x = \pm\frac{1}{\sqrt{2}}(\frac{\sqrt{2}}{\sqrt{2}})$
$x = \pm 2\sqrt{2}$	$x = \pm \frac{\sqrt{2}}{2}$
c) $4x^2 + 5 = 8$	3a) $(x-2)^2 = 36$
$4x^2 = 3$	$x-2 = \pm 6$
$x^2 = \frac{3}{4}$	$x = 2 \pm 6$
$x = \pm\sqrt{\frac{3}{4}}$	$x = 8, -4$
$x = \pm\frac{\sqrt{3}}{2}$	
4b) $2(x+4)^2 = 64$	$x+4 = \pm 4\sqrt{2}$
$(x+4)^2 = 32$	$x = -4 \pm 4\sqrt{2}$
$x+4 = \pm\sqrt{32}$	

# Cornell Notes

Name Rachel Menten

Date 10-31-2011

Topic Alg II Completing the Square

Class/Subject Bonn Alg II Kerl

8:30

Vertex Form  
  
#4

$(x-h)^2 + k = 0$

4)  $x^2 - 4x - 8 = 0$   
 $x^2 - 4x = 8$      $-\frac{-4}{2} = (-2) \rightarrow (-2)^2 = 4$   
 $x^2 - 4x + 4 = 8 + 4$   
 $(x-2)^2 = 12$   
 $(x-2)^2 - 12 = 0$  solve  $\rightarrow (x \pm 2)^2 = 12$   
 $x - 2 = \pm\sqrt{12}$   
do a+c with partner     $x = 2 \pm 2\sqrt{3}$

a)  $5 \pm \sqrt{2}$                   c)  $3 \pm \sqrt{7}$

# Cornell Notes

Name

Date

Topic

Class/  
Subject

Blank area for notes.

Lined area for notes.

Blank area for notes.