Key

Context Quadratics WS #2

Fenced on three sides:

For problem #1, a builder is designing a rectangular parking lot. She has 200 feet of fencing to enclose the lot on three sides. Fill in the table for different values of *w*, then write a final function *A(w)* for the area of the lot as a function of the width, *w*. For problems 2-4, you only need to write the function for *A(w)* when given the amount of fencing available.

1)

Width (ft)	*Length (ft)*	*Area (ft)*
20	160	20(160)
50	100	50(100)
60	80	60(80)
75	50	75(50)
w	200-2w	w(200-2w)

A(w) = w(200-2w)

2) 120 feet of fencing.

$A(w) = w(120-2w)$

3) 500 feet of fencing

$A(w) = w(500-2w)$

4) 60 feet of fencing

$A(w) = w(60-2w)$

For problems 5 – 7, you are given the initial velocity and initial height of a projectile. Write a function *h(t)* for the height of the object after *t* seconds.

5) initial height = 60 feet
initial velocity = 85 ft/sec

$h(t) = -16t^2+85t+60$

6) initial velocity = 25 ft/sec
initial height = 80 feet

$h(t) = -16t^2+25t+80$

7) initial height = 100 feet
initial velocity = 120 ft/sec

$h(t) = -16t^2+120t+100$

Fenced on four sides:

#9

For problem ~~#8~~, a builder is designing a rectangular parking lot. She has 200 feet of fencing to enclose the lot on all four sides. Fill in the table for different values of *w*, then write a final function *A(w)* for the area of the lot as a function of the width, *w*. For problems 10 - 12, you only need to write the function for *A(w)* when given the amount of fencing available.

9)

Width (ft)	*Length (ft)*	*Area (ft)*
20	80	20(80)
50	50	50(50)
60	40	60(40)
75	25	75(25)
w	100−w	w(100−w)

A(w) = w(100−w)

10) 120 feet of fencing.

A(w) = w(60−w)

11) 500 feet of fencing

A(w) = w(250−w)

12) 60 feet of fencing

A(w) = w(30−w)