

Quadratic Applications

Pom Poms

\$20 Sell 50
 ↑ \$2 Sell 3 less

Maximize Revenue

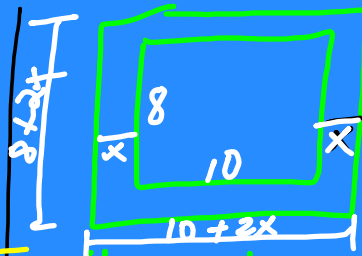
$$Rev = (\text{Price})(\# \text{ sold})$$

$$R = (20 + 2x)(50 - 3x)$$

Vertex:

Choice 1) FOIL + use
 $x = -b/2a$

Choice 2) Solve factors
 + use
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$



How wide is strip?

Solve for x.

$$lw = \text{Area}$$

$$(10 + 2x)(8 + 2x) = \#$$



$$(40 - 2x)(60 - 2x) = 1500$$

Solve for x

1) FOIL
 2) Set = 0

3) solve
 by factoring
 or quadr
 formula.

PROJECTILE
 MOTION

$$h(t) = \frac{1}{2}at^2 + v_0t + s_0$$

How high will it go?

Find vertex

When will hit
 ground?
 $h = 0$

Set = 0 +
 Solve.

#7

Profit =
 Revenue - Cost