4.3 Solving Equations using square roots

$0 = -0.008x^2 + 20$

$-20 \quad -20$

$\frac{-20}{-0.008} = \frac{-0.008x^2}{-0.008}$

$\sqrt{2500} = \sqrt{x^2}$

$\pm 50 = x$

when you take the square root you get a $\pm$ value

Area of a Circle is $62.8 cm^2$

$A = \pi r^2$ $\quad \pi \approx 3.14$

$\frac{62.8}{3.14} = \frac{3.14r^2}{3.14}$

$\sqrt{20} = \sqrt{r^2}$

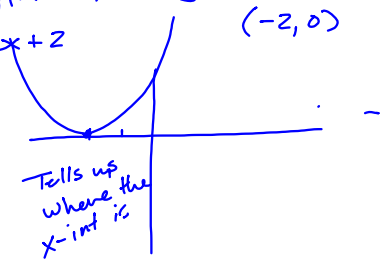
$4.5 = r$

In distance we don't use the negative value

$\sqrt{0} = \sqrt{(x+2)^2}$ $\quad y = (x+2)^2$

$0 = x + 2$ $\quad (-2, 0)$

$-2 = x$



Tells us where the x-int is

$0 = 2(x-3)^2 - 8$

$+8 \quad +8$

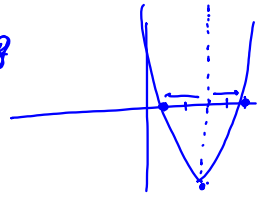
$\frac{8}{2} = \frac{2(x-3)^2}{2}$

$\sqrt{4} = \sqrt{(x-3)^2}$

$\pm 2 = x - 3$

$3 \pm 2 = x$ $\quad 3+2=5$ $\quad 3-2=1$

$5, 1 = x$



$x^2 - 14 = -3$

$+14 \quad +14$

$\sqrt{x^2} = \sqrt{11}$

$x = \pm 3.3$

Round to nearest tenth

$\frac{1}{2}(x+4)^2 - 9 = 17$

$+9 \quad +9$

$2\left(\frac{1}{2}(x+4)^2 = 26\right)$

$\sqrt{(x+4)^2} = \sqrt{52}$

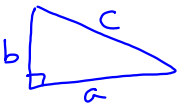
$x + 4 = \pm 7.2$

$-4 \quad -4$

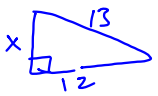
$x = -4 \pm 7.2$

$x = 3.2, -11.2$

Pythagorean Thm



$a^2 + b^2 = c^2$



$x^2 + 12^2 = 13^2$

$x^2 + 144 = 169$

$-144 \quad -144$

$x^2 = 25$

$x = 5$