

Test 2 # 34, 35

$x = \# \text{ of rides}$
 (34) $A(x) = 12 + 2x$
admission \$2 per ride

$B(x) = 16 + 1.50x$
admission \$1.50 per ride

Total Cost the same:

$$12 + 2x = 16 + 1.50x$$

$$\frac{.50x}{.50} = \frac{4}{.50}$$

$$x = 8$$

8 rides

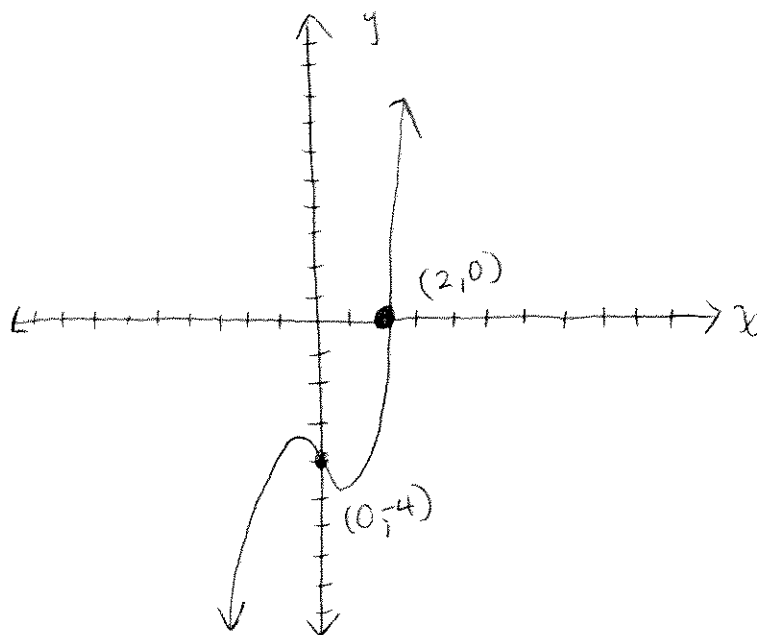
For 5 RIDES:

$$A(5) = 12 + 2(5) = \$22$$

$$B(5) = 16 + 1.50(5) = \$23.50$$

Jerry would pay less at
Carnival A for 5 rides.

(35) $f(x) = x^3 - 2x - 4$



Real solution to $x^3 - 2x - 4 = 0$:

$$x = 2$$

$$\begin{aligned} f(2) &= (2)^3 - 2(2) - 4 \\ &= 8 - 4 - 4 \\ &= 0 \end{aligned}$$

$$f(x) = x^3 - 2x - 4$$

$(x-2)$ is a factor because 2 is a root (zero)

$x^2 + 2x + 2$	$ $	$x^3 - 2x - 4$	$ $	-2
x	x^3	$+2x^2$	$+2x$	-4
-2	$-2x^2$	$-4x$	-4	-4

LINEAR FACTOR and Quadratic Factor:

$$f(x) = (x-2)(x^2 + 2x + 2)$$

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

$$x = 2$$

$$x^2 + 2x = -2$$

$$x^2 + 2x + 1 = -2 + 1$$

$$\sqrt{(x+1)^2} = \sqrt{-1}$$

$$x+1 = \pm i$$

$$x = -1 \pm i$$

Complex Roots:
 $x = -1 \pm i$