

Chapter 10 Practice Test

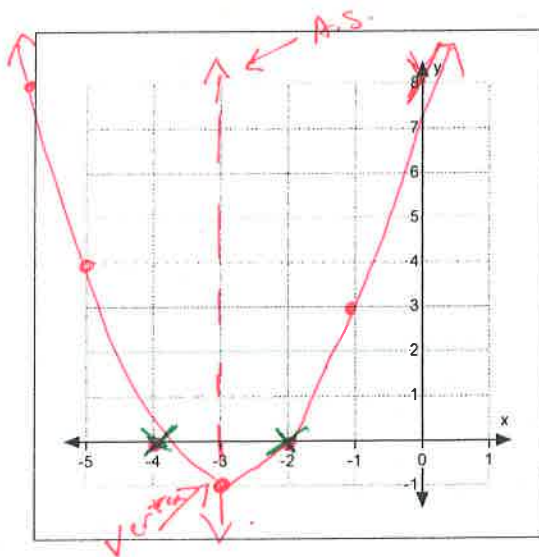
STUDY TIP

10 CHAPTER TEST

Graph the function. Label the vertex and axis of symmetry.

4. $y = x^2 + 6x + 8$

$A=1 \quad B=6 \quad C=8$



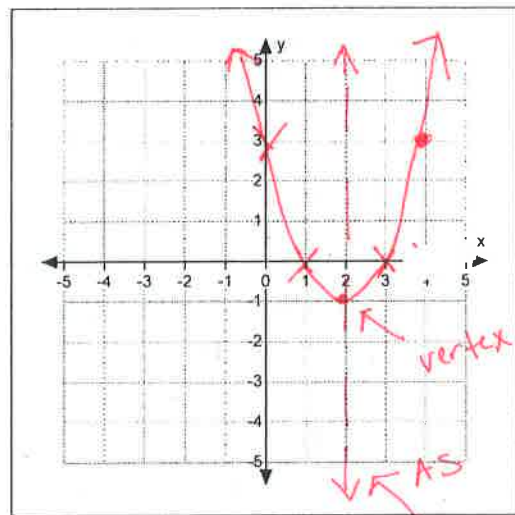
Approximate the zeros of the function to the nearest tenth.

8. $f(x) = x^2 - 4x + 3$

$A=1 \quad B=-4 \quad C=3$

SOLUTIONS

$X=1, 3$



AS $x = \frac{-B}{2A} = \frac{-6}{2(1)} \quad \boxed{x = -3}$

AS $x = \frac{4}{2(1)} \quad \boxed{x = 2}$

Vertex $y = (-3)^2 + 6(-3) + 8 = -1$
 $\boxed{(-3, -1)}$

Vertex $(2, -1) \quad y = 2^2 - 4(2) + 3 = -1$

x	-5	-4	-3	-2	-1
y	3	0	-1	0	3

		v		
x	1	2	3	
y	0	-1	0	

x intercepts

SOLVE BY TAKING ROOTS:

(10) $\frac{3x^2}{3} = \frac{108}{3}$
 $\sqrt{x^2} = \sqrt{36}$
 $x = \pm 6$

(11) $-x^2 + 5 = 6$
 $\frac{-5}{-5} \quad \frac{-51}{-51}$
 $x^2 = -45$
 $\sqrt{x^2} = \sqrt{45}$ $x \approx \pm 6.71$

(12) SOLVE BY COMPLETING THE SQUARE
 (TELL WHAT "C" IS)

$x^2 - 2x - 3 = 0$
 $\quad \quad \quad +3 \quad +3$

$c = -\left(\frac{-2}{2}\right) = (-1)^2 = 1$ $(c=1)$

$x^2 - 2x + 1 = 3 + 1$
 $\sqrt{(x-1)^2} = \sqrt{4}$

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

$x = 1 + 2$ $(x = 3)$

$x = 1 - 2$ $(x = -1)$

SOLVE WITH QUAD FORMULA - TELL WHAT DISCRIMINANT IS

(13) $-2x^2 + 6x + 9 = 0$
 $A = -2 \quad B = 6 \quad C = 9$

$x = \frac{-6 \pm \sqrt{36 - 4(-2)(9)}}{2(-2)}$

$x = \frac{-6 \pm \sqrt{108}}{-4}$

$D = 108$
 2 SOL.

$x = \frac{-6 + \sqrt{108}}{-4}$

$x = \frac{-6 - \sqrt{108}}{-4}$

$x \approx -1.10$

$x \approx 4.10$

(14) $2x^2 - 12x - 1 = -7x + 6$
 $\quad \quad \quad +7x - 6 \quad \quad \quad +7x - 6$

$2x^2 - 5x - 7 = 0$ $A = 2$
 $B = -5$

$x = \frac{5 \pm \sqrt{25 - 4(2)(-7)}}{2(2)}$ $C = -7$

$x = \frac{5 \pm \sqrt{81}}{4}$ $D = 81$
 2 SOL.

$x = \frac{5 + 9}{4}$

$x = \frac{5 - 9}{4}$

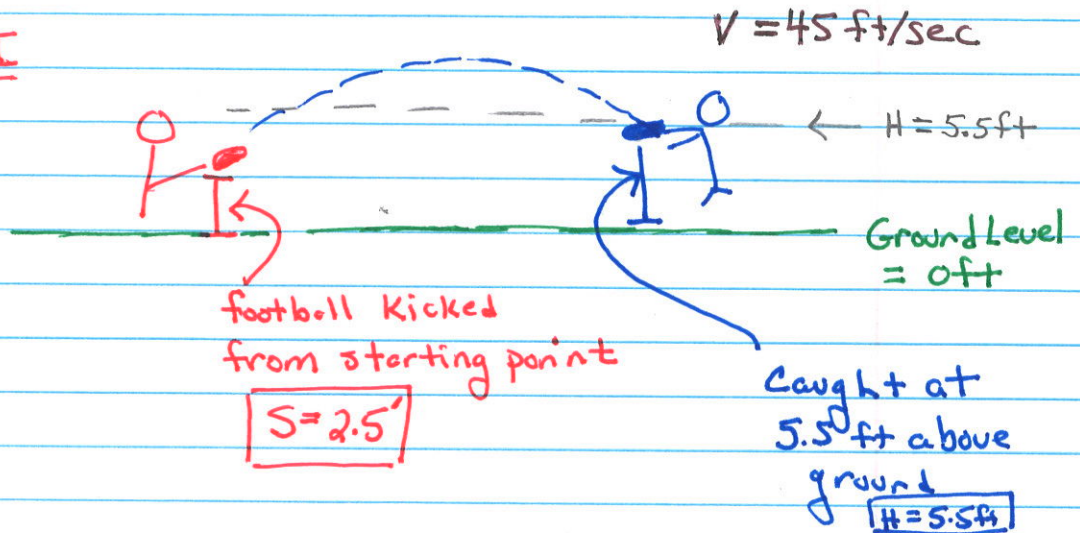
$x = 3.5$

$x = -1$

CHIO REVIEW (PRACTICE TEST)

WORD PROBLEM: PAGE 675 #48

48 KI



(a) EQUATION TO DESCRIBE THIS MODEL (function)

$$H = -16T^2 + 45T + 2.5 \quad \leftarrow \text{memorize}$$
$$H = -16T^2 + VT + S$$

(b) AMOUNT OF TIME IN THE AIR

$$5.5 = -16T^2 + 45T + 2.5$$

$$\begin{array}{r} -5.5 \qquad \qquad \qquad -5.5 \\ \hline \end{array}$$

$$0 = -16T^2 + 45T - 3$$

POT IN STD FORM

$$0 = Ax^2 + Bx + C$$

USE Q.F. $x = \frac{-B \pm \sqrt{B^2 - 4AC}}{2A}$

$$A = -16 \quad B = 45 \quad C = -3$$

SIMPLIFY + SOLVE

$$x = \frac{-45 \pm \sqrt{2025 - 4(-16)(-3)}}{2(-16)}$$

$$x = \frac{-45 \pm \sqrt{1833}}{-32}$$

$$x = \frac{-45 + \sqrt{1833}}{-32}$$

$$x \approx 0.068 \text{ sec}$$

THIS IS ON THE WAY UP

$$x = \frac{-45 - \sqrt{1833}}{-32}$$

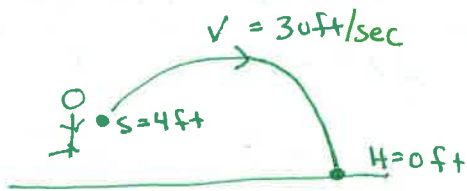
$$x \approx 2.744 \text{ sec}$$

ANSWER:
THE BALL
WAS IN THE
AIR ABOUT
2.7 SECONDS
WHEN CAUGHT

WP #1

A juggler throws a ball from an initial height of 4ft with an initial velocity of 30ft/sec. If the juggler misses the ball, after how many seconds will it hit the ground?

KJ:



$$H = -16T^2 + VT + S$$

$$0 = -16T^2 + 30T + 4$$

$$0 = -2(8T^2 + -15T - 2)$$

$$0 = -2(8T + 1)(T - 2)$$

$$8T + 1 = 0$$

$$T = -1/8$$

$$T - 2 = 0$$

$$T = 2$$

The ball lands on the ground in 2 seconds