

p. 313 evens

$$\#20 \quad \pm 1, \pm 3$$

$$\#22 \quad \pm 4, \pm 2i$$

$$\#24 \quad \pm\sqrt{2}, \pm i\sqrt{6}$$

$$\#26 \quad 4/3,$$

$$-\frac{2}{3} \pm \frac{2\sqrt{3}}{3}i$$

$$\#28 \quad \pm 3i, \pm i\sqrt{3}$$

Solving polynomial equations
with calculator.

① standard form

$$P(x) = 0$$

- graph $P(x)$

- adjust window if necessary, so you can see where graph crosses x -axis

- use "zero" menu item to find zeros. Those x -values are the solution "set"

Example, #6 p. 316

$$x^3 - 4x^2 - 7x = -10$$

Standard form

$$x^3 - 4x^2 - 7x + 10 = 0$$

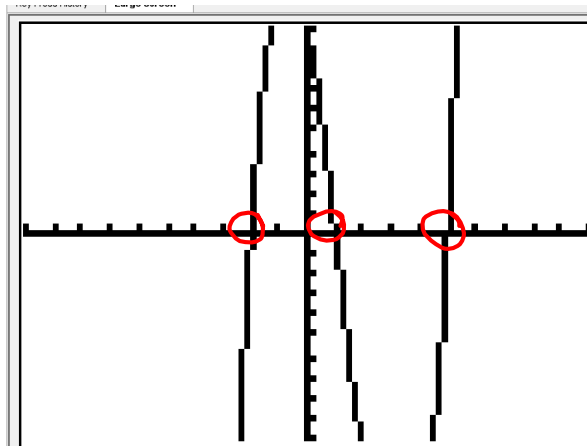
#1 between $x = -3$ and $x = -1$ $P(x)$

$$x = -2$$

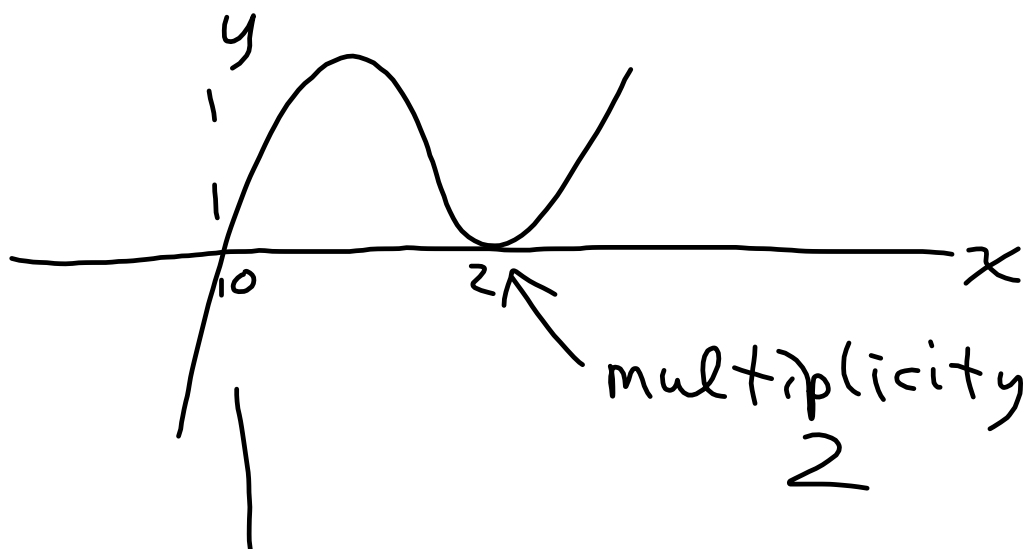
#2 0 and 2

#3 4 and 6

$$x = 5$$

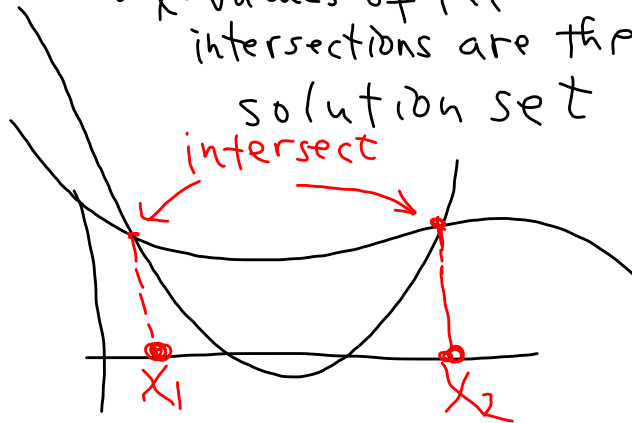


$$\#8, 4x^3 - 8x^2 + 4x = 0$$



$$\textcircled{2} P_1(x) = P_2(x)$$

- graph both P_1 and P_2 on calculator
- adjust window if necessary
- find where they intersect
- x -values of the intersections are the solution set



24

$$x^4 + 4x^2 = 12$$

$$x^4 + 4x^2 - 12 = 0$$

#26 $81x^3 - 192 = 0$

gcf=3 $\frac{3(27x^3 - 64)}{3} = \frac{0}{3}$
 $27x^3 - 64 = 0$

diff of cub $(3x)^3 - (4)^3 = 0$

$(3x-4)(9x^2+12x+16) = 0$

$x = \frac{4}{3}$

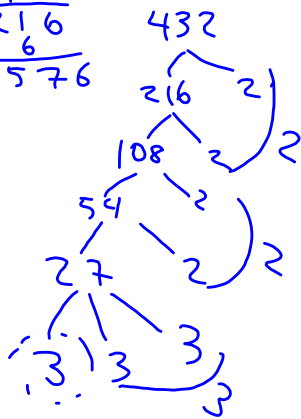
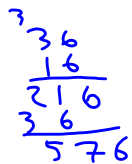
$x = \frac{-12 \pm \sqrt{144 - 576}}{18}$

$= \frac{-12 \pm i\sqrt{432}}{18}$

$= \frac{-12 \pm 12i\sqrt{3}}{18}$

$= -\frac{12}{18} \pm \frac{12\sqrt{3}}{18}i$

$x = -\frac{2}{3} \pm \frac{2\sqrt{3}}{3}i$



#27 $x^4 - 64 = 0$
 diff. of square $(x^2)^2 - (8)^2 = 0$

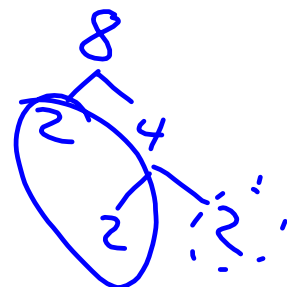
$(x^2+8)(x^2-8) = 0$

$x^2 = -8$

$x^2 = 8$

$x = \pm 2i\sqrt{2}$

$x = \pm 2\sqrt{2}$



$$\#29 \quad x^5 - 5x^3 + 4x = 0$$

$$x(x^4 - 5x^2 + 4) = 0$$