

pg. 333 #1-12

$$1. \frac{2}{1} = \frac{\pm 1 \pm 2}{\pm 1}$$

possible roots  $\pm 1, \pm 2$

put  $y = x^3 - x^2 + 2x - 2$  in GC & check table

@ $x = -2$	$y = -18$	not a zero
$x = -1$	$y = -6$	not a zero
$x = 1$	$y = 0$	ZERO!
$x = 2$	$y = 6$	not a zero

$$7. x^3 - 2x^2 + 5x - 10 = 0$$

$$\frac{10}{1} = \frac{\pm 1, \pm 2, \pm 5, \pm 10}{\pm 1}$$

possible roots  $\pm 1, \pm 2, \pm 5, \pm 10$

put  $y = x^3 - 2x^2 + 5x - 10$  in GC & check table

x	y
-10	-1260
-5	-210
-2	-36
-1	-18
1	-6
2	0 — zero
5	90
10	840

$$\begin{array}{r|rrrr} 2 & 1 & -2 & 5 & -10 \\ & & 2 & 0 & 10 \\ \hline & 1 & 0 & 5 & 0 \end{array}$$

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

$$x-2=0$$

$$x=2$$

$$x^2+5=0$$

$$x^2 = -5$$

$$x = \pm i\sqrt{5}$$

**Answers for Lesson 6-5, pp. 333-334 Exercises**

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1.  $\pm 1, \pm 2; 1$

2.  $\pm 1, \pm 2, \pm 3, \pm 6; 1, -2, -3$

3.  $\pm 1, \pm 2, \pm 4; -1$

4.  $\pm \frac{1}{2}, \pm 1, \pm 2, \pm 4, \pm 8; \text{no rational roots}$

5.  $\pm 1, \pm 2, \pm 4, \pm 8, \pm 16; -2$

6.  $\pm 1, \pm 3, \pm 5, \pm 15; \text{no rational roots}$

7.  $2, \pm i\sqrt{5}$

8.  $5, \pm i\sqrt{7}$

9.  $-3, 1, \frac{7}{2}$

10.  $-5, \frac{1 \pm \sqrt{3}}{2}$

11.  $\pm \frac{1}{2}, \pm 3$

12.  $1, -2, \frac{1 \pm \sqrt{7}}{3}$

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