

Unit 3 Review KEY

	N ✓	Z ✓	Q ✓	R ✓	I	
[1]						
[2]						
[3]				✓		✓
[4]			✓	✓		✓
[5]	2i		[6]	-2i√5		
[7]	i√ $\frac{2}{5}$		[8]	$\frac{3}{5}i$		
[9]	12i√2		[10]	-5√2		
[11]	9-3i		[12]	-2-2i		
[13]	22+21i		[14]	$\frac{42}{37} + \frac{7}{37}i$		
[15]	-1		[16]	-i		
[17]	1		[18]	i		
[19]	(x+8i)(x-8i)		[20]	(3x+2)(3x-2)		
[21]	(x-6)(x-1)		[22]	(4x+1) ²		
[23]	(2x-3)(x+5)		[24]	No because x ² -11x+24 factors into (x-3)(x-8)		
[25]	8x(2-x)(2+x)		[26]	(10x+7y)(10x-7y)		
[27]	(2x-5)(3x+1)		[28]	x = ±√5		
[29]	x = -3, -5		[30]	x = $\frac{-1 \pm \sqrt{11}}{2}$		

$$\boxed{31} \quad x = 7 \pm \sqrt{46}$$

$$\boxed{33} \quad x = \frac{-2 \pm i\sqrt{3}}{2} \text{ or } -1 \pm \frac{\sqrt{3}}{2}i$$

$$\boxed{35} \quad \Delta = 0$$

1 rational (real) solution

$$\boxed{37} \quad x = \frac{1}{2}, x = 4$$

$$\boxed{39} \quad \text{set: } \{x \mid -3 < x < 2\}$$

interval: $(-3, 2)$

$$\boxed{41} \quad \text{The lot is 50 by 58 ft.}$$

$$\boxed{32} \quad x = -2 \pm \sqrt{7}$$

$$\boxed{34} \quad \Delta = -39$$

2 imaginary solutions

$$\boxed{36} \quad \Delta = 100$$

2 rational (real) solutions

$$\boxed{38} \quad x = -2, 0$$

$$\boxed{40} \quad \text{set: } \{x \mid x \leq 0.697 \text{ or } x \geq 4.303\}$$

interval: $(-\infty, 0.697] \cup [4.303, \infty)$

$$\boxed{42} \quad \text{The object reaches a height of 6400ft after 57.016 seconds.}$$