

## Algebra 2 Semester 1 Review WS Answers

1.  $V(-3, -2)$ ; up
2. **A:** (2,4) **B:** [ Graph ]
3.  $x = \pm\sqrt{24} = \pm 2\sqrt{6} = \pm 4.899$
4.  $x = 1 \pm 5\sqrt{2}i$
5.  $v = \frac{3}{5}$
6.  $\frac{-11+i\sqrt{59}}{18}, \frac{-11-i\sqrt{59}}{18}$
7.  $x = -3$  or  $5$
8. **A:** .75 seconds  
**B:** 14 feet  
**C:** 5 feet  
**D:** 1.579 seconds  
**E:** 1.685 seconds
9.  $\frac{1}{2}$  second
10. **A:** F  
**B:** T  
**C:** F  
**D:** T
11. Graph first then answer.  
Set notation:  $\left\{x : x < -1 \text{ or } x > \frac{3}{2}\right\}$  (or use complete sentence or interval notation)
12. **a)**  $x = -1, 2$   
**b)**  $\{x : x \leq -1 \text{ or } x \geq 2\}$
13.  $10b^5 - 4b^3 - b + 3$
14.  $-5x^3 - x - 5$
15.  $2x^3(x+4)(x-1)$
16.  $x^2 - 5x + 25$
17.  $6x^2 - 2x + 2 + \frac{3}{x-7}$
18.  $3x^2 - 5x + 1$
19.  $x = 3, 2, -1, -5$ ;  $(0, -30)$ ; < GRAPH >
20.  $x = -4$  (mult. 2),  $1$  (mult. 3);  $(0, -48)$ ; <GRAPH >
21.  $x = 0, -7, 2, -3$  (mult. 2);  $(0, 0)$ ; < GRAPH >
22.  $f(x) = (x-2)^2(x-1)$ ;  $x = 2$  (mult. 2),  $1$ ;  $(0, -4)$ ; < GRAPH >
23.  $g(x) = (x-1)(2x^2 + 2x - 2)$ ;  $x = 1, 0.6, -1.6$ ;  $(0, 2)$ ; < GRAPH >
24.  $h(x) = (2x+1)(x^2 - 3)$ ;  $x = -\frac{1}{2}, \pm\sqrt{3}$ ;  $(0, -3)$ ; < GRAPH >
25.  $j(x) = (x+2)^2(x-1)(x-4)$ ;  $x = -2$  (mult. 2),  $1, 4$ ;  $(0, 16)$ ; < GRAPH >
26. B
27. D
28.  $f(x) = -(x+2)^2(x-1)(x-3)$
29.  $g(x) = \frac{1}{4}(x+4)(x+1)(x-2)$
30.  $h(x) = -(x+3)(x+1)(x-2)$
31.  $j(x) = \frac{1}{4}(x+1)^2(x-2)(x-4)$
32. Graph first then answer.  
Set notation:  $\{x : x < -5 \text{ or } -1 < x < 2 \text{ or } x > 3\}$   
(or use complete sentence or interval notation)
33. Graph first then answer.  
Set notation:  $\{x : -6 \leq x \leq 1 \text{ or } x \geq 4\}$  (or use complete sentence or interval notation)
34. **a)**  $x = -4, -1, 5$   
**b)**  $\{x : -4 \leq x \leq -1 \text{ or } x \geq 5\}$   
**c)**  $\{x : x < -4 \text{ or } -1 < x < 5\}$