

1a. $y = 208x + 32$ $r = .995$

b. $y = -16x^2 + 272x$ $r^2 = 1$

c. quadratic; perfect fit

d. $D(0, 20)$ $R(0, 1500)$

e. 372 Feet

f. 672 Feet

g. It's on the way down.

14 sec is to the right of vertex

h. 17 sec

2. $V(-3, 4)$

$P'(-2, 3)$

$x = -3$

$Q'(-1, 0)$

$y = (x+3)^2 + 4$

$y = x^2 + 6x + 13 - 5$

3. Max at $(1, 9)$

4. $y = -2(x+4)^2 + 2$

5. $x(5x+7)^2$

6. $8(x+3)(x-3)$

7. $(7k+1)(x-3)$

8. $(x+9)(x-6)$

9. $x = 7/2$

10. $x = 4$

$x = -4$

$x = -1$

11. $x = -4$

12. $x = \pm \sqrt{3}$

13. $x = \frac{5 \pm \sqrt{17}}{4}$

14. $-9 - 3i\sqrt{6}$

15. $-42 - 6i$

16. $5 + 5i$