

p. 169

1-6, 7, 9, 13-18, 23, 29, 30, 39, 43

1.) not, negative exponent

4.) yes Deg: 0  
L.C.: 0

2.) yes, degree: 1  
L.C.: 2

5.) NO: fractional exponent  
 $\sqrt[3]{x} = ( )^{1/3}$

3.) yes deg: 5  
L.C.: 2

6.) yes; Deg: 2  
L.C.: -5

7.) (-5, -1) (2, 4)

9.) (-4, 6) (-1, 2)

$$m = \frac{4 - (-1)}{2 - (-5)} = \frac{5}{7}$$

$$m = \frac{6 - 2}{-4 - (-1)} = \frac{4}{-3}$$

$$y + 1 = \frac{5}{7}(x + 5)$$

$$y + 1 = \frac{5}{7}x + \frac{25}{7}$$

$$y - 1 = \frac{5}{7}x + \frac{18}{7}$$

$$\boxed{y = \frac{5}{7}x + \frac{18}{7}}$$

$$y - 6 = -\frac{4}{3}(x + 4)$$

$$y - 6 = -\frac{4}{3}x - \frac{16}{3}$$

$$y + 6 = -\frac{4}{3}x + \frac{2}{3}$$

$$\boxed{y = -\frac{4}{3}x + \frac{2}{3}}$$

13.) A

23.) V: (1, 5)

14.) D

axis:  $x = x = 1$

15.) B

16.) F

17.) E

29.)  $-x^2 + 8x + 3$

18.) C

$$\frac{-8}{2(-1)} = \frac{-8}{-2} = 4$$

$$-(4)^2 + 8(4) + 3 = 19$$

V: (4, 19)

axis:  $x = 4$

$$30) 4x^2 - 2x + 6$$

$$\frac{2}{2(4)} \quad \frac{2}{8} = \frac{1}{4}$$

$$V: \left(\frac{1}{4}, \frac{23}{4}\right)$$

$$\text{axis: } x = \frac{1}{4}$$

$$4\left(\frac{1}{4}\right)^2 - 2\left(\frac{1}{4}\right) + 6$$

$$5.75$$

$$\frac{23}{4}$$

$$39) \text{Vertex: } (-1, -3)$$

$$\text{Point: } (1, 5)$$

$$y = a(x-h)^2 + k$$

$$5 = a(1+1)^2 - 3$$

$$5 = a(2)^2 - 3$$

$$5 = 4a - 3$$

$$+3 \quad +3$$

$$8 = 4a$$

$$2 = a$$

$$f(x) = 2(x+1)^2 - 3$$

$$43) \text{Vertex: } (1, 3)$$

$$\text{Point: } (0, 5)$$

$$5 = a(0-1)^2 + 3$$

$$5 = a(-1)^2 + 3$$

$$5 = 1a + 3$$

$$-3 \quad -3$$

$$2 = 1a$$

$$f(x) = 2(x-1) + 3$$