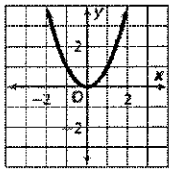
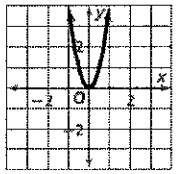
## Practice 10-1

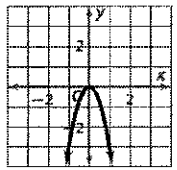
**1.** (0,0); maximum **2.** (0,0); maximum **3.** (0,0); minimum

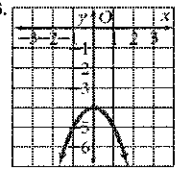
**7.** $y = x^2$, $y = 3x^2$, $y = 5x^2$ **8.** $y = \frac{1}{2}x^2$, $y = -x^2$, $y = -8x^2$

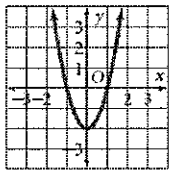
**9.** $y = 2x^2$, $y = -4x^2$, $y = 5x^2$ **10.** $y = \frac{1}{3}x^2$, $y = -\frac{1}{2}x^2$, $y = -3x^2$

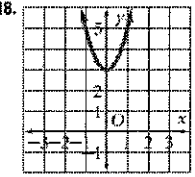
**13.** 

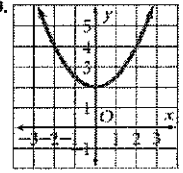
**14.** 

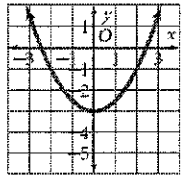
**15.** 

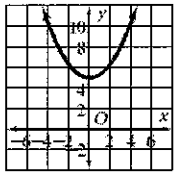
**16.** 

**17.** 

**18.** 

**19.** 

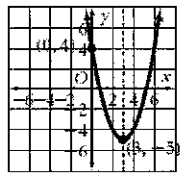
**20.** 

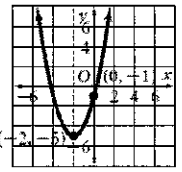
**21.** 

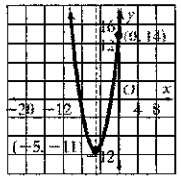
## Practice 10-2

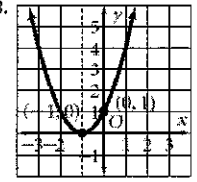
**1.** $x = 5$; (5, −23) **2.** $x = -6$; (−6, −45) **3.** $x = 1$; (1, 2)

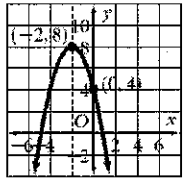
**4.** $x = -3$; (−3, −18) **5.** $x = 0$; (0, 3) **6.** $x = 2$; (2, 16)

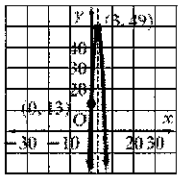
**10.** 

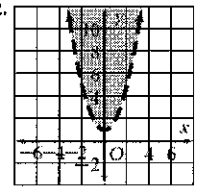
**11.** 

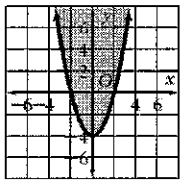
**12.** 

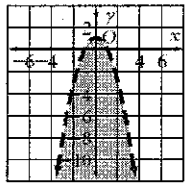
**13.** 

**14.** 

**15.** 

**22.** 

**23.** 

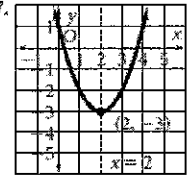
**24.** 

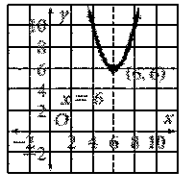
**31.** (3, −9); minimum **32.** (−4, −1); maximum **33.** (0.5, 0); maximum

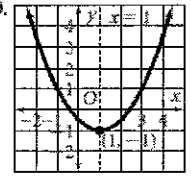
**37.** 21 ft; yes **38.** $4843.75

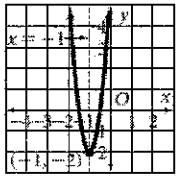
## Practice 5-3

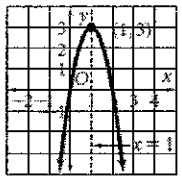
**1.** $y = x^2 - 5$ **2.** $y = x^2 + 2$ **3.** $y = (x - 2)^2$
**4.** $y = -2x^2 + 4$ **5.** $y = 2(x - 3)^2 + 2$
**6.** $y = -2(x + 3)^2 + 5$

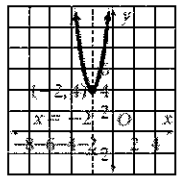
**7.** 

**8.** 

**9.** 

**10.** 

**11.** 

**12.** 

**19.** $y = (x + 2)^2 - 4$ **20.** $y = 2(x + 2)^2 - 5$
**21.** $y = -2(x + 2)^2 + 8$ **22.** $y = -(x - 2)^2 + 8$
**23.** $y = (x - 2)^2 - 8$ **24.** $y = \left(x + \frac{5}{2}\right)^2 - \frac{25}{4}$

**31.** (2, −4); 8 **32.** (−6, 5); −7 **33.** (1, −1); 1

**37.** (5, 1); 101 **38.** (−5, −3); −53 **39.** (−2, 5); −15