SECTION 5-1

EXERCISE A

Factor each polynomial. You do not need to *solve* it.

1) $x^3 - 27$ 2) $4xy^2 - 16x$ 3) $3x^2 + 8x + 5$ 4) $g^2 - 40g + 400$

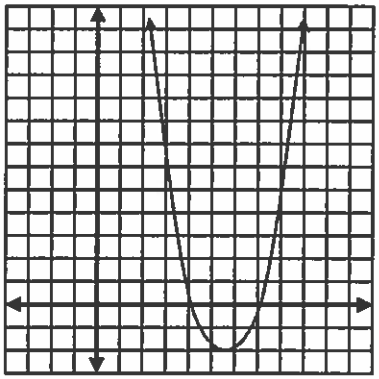
Solve each equation by factoring.

5) $x^2 - 11x = 0$ 6) $x^2 + 6x - 16 = 0$ 7) $4x^2 - 13x = 12$

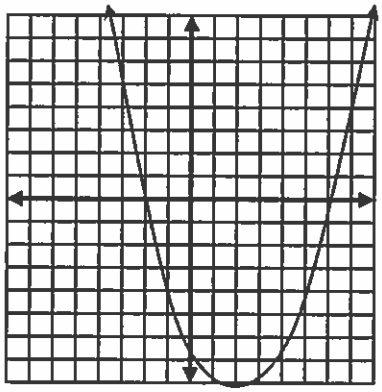
8) $y^2 - 14y = -49$ 9) $n^2 + 9 = 6n$ 10) $h^2 - 3h + \frac{9}{4} = 0$

Write a quadratic equation in standard form ($ax^2 + bx + c = 0$) for each graph pictured.

11)



12)



Write a quadratic equation in standard form with the given roots.

13) -4, 7 14) -6, -8 15) $9, \frac{1}{2}$

EXERCISE B

Factor each polynomial. You do not need to *solve* it.

16) $x^2 - 7x + 6$ 17) $8y^3 + 1$ 18) $5x^2 - 80$ 19) $10r^2 - 13r - 9$

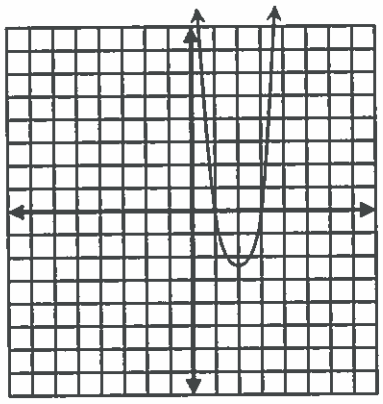
Solve each equation by factoring.

20) $x^2 + 5x - 24 = 0$ 21) $x^2 - 3x - 28 = 0$ 22) $x^2 = 81$

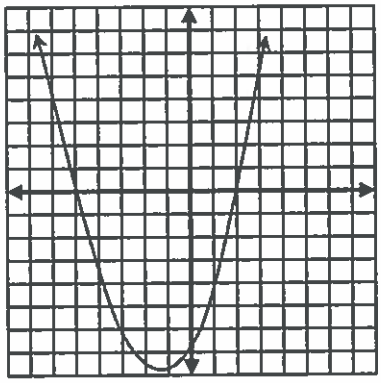
23) $x^2 - 4x = 21$ 24) $-3y^2 - 6y + 9 = 0$ 25) $w^2 + 64 = 16w$

Write a quadratic equation in standard form ($ax^2 + bx + c = 0$) for each graph pictured.

26)



27)



Write a quadratic equation in standard form with the given roots.

28) 4, -5

29) $-6, \frac{1}{3}$

30) $-\frac{3}{2}, -\frac{4}{5}$

EXERCISE C

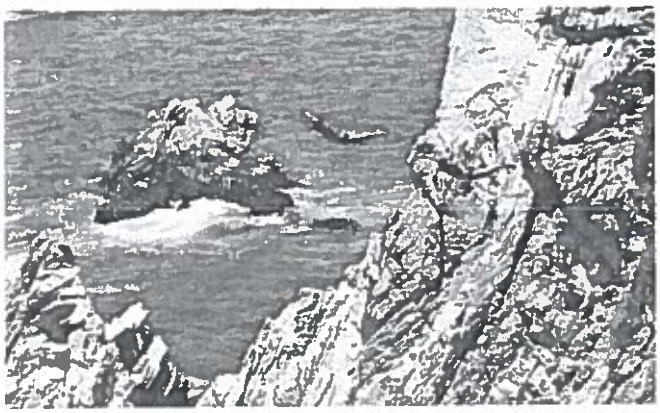
Solve each equation by factoring.

31) $4x^2 = -3x$

32) $4x^2 - 17x = -4$

33) $6x^2 + 6 = -13x$

34) To avoid hitting any rocks below, a cliff diver jumps out and *up*. The equation $\mathbf{h = -16t^2 + 4t + 26}$ describes her height *h* in feet *t* seconds after jumping. If the cliff she is jumping from is 26 feet high, determine the amount of time that has passed when she returns to a height of 26 feet after jumping. Remember, she jumps upward initially. Hint: draw it!



1) $(x-3)(x^2+3x+9)$	11) $x^2 - 11x + 28 = 0$	21) $x = -4, 7$	31) $x = 0, -3/4$
3) $(3x+5)(x+1)$	13) $x^2 - 3x - 28 = 0$	23) $x = -3, 7$	33) $x = -2/3, -3/2$
5) $x = 0, 11$	15) $2x^2 - 19x + 9 = 0$	25) $w = 8$	
7) $x = -3/4, 4$	17) $(2y+1)(4y^2-2y+1)$	27) $x^2 + 3x - 10 = 0$	
9) $n = 3$	19) $(5r-9)(2r+1)$	29) $3x^2 + 17x - 6 = 0$	