

Secondary III 7-3 HW  
Factoring Polynomials

Name: \_\_\_\_\_

Factor the polynomial, or identify it as irreducible.

1.  $x^3 + x^2 - 12x$

2.  $x^3 + 5$

3.  $x^3 - 125$

4.  $x^3 + 5x^2 + 6x$

5.  $8x^3 + 125$

6.  $2x^3 + 6x$

7.  $216x^3 + 64$

8.  $8x^3 - 64$

9.  $10x^3 - 80$

10.  $2x^4 + 7x^3 + 5x^2$

11.  $x^3 + 10x^2 + 16x$

12.  $x^3 + 9769$

Factor the polynomial by grouping.

13.  $x^3 + 8x^2 + 6x + 48$

14.  $x^3 + 4x^2 - x - 4$

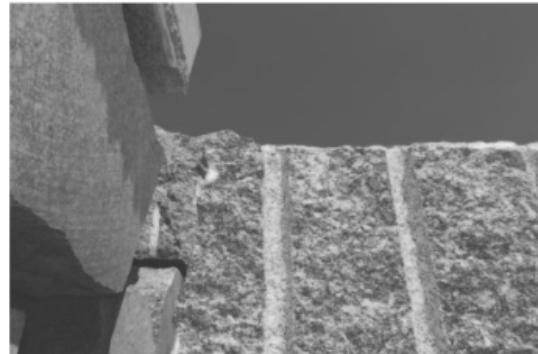
15.  $8x^4 + 8x^3 + 27x + 27$

16.  $27x^4 + 54x^3 - 64x - 128$

17.  $x^3 + 2x^2 + 3x + 6$

18.  $4x^4 - 4x^3 - x + 1$

22. **Construction** A piece of granite is being cut for a building foundation. You want its length to be 8 times its height and its width to be 3 times its height. If you want the granite to be 648 cubic yards, what will its length, width, and height be?



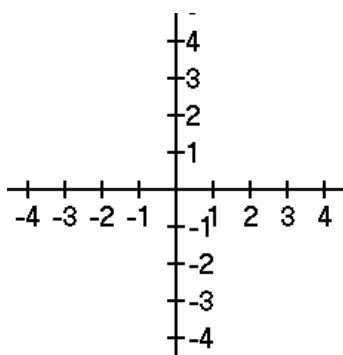
## Review

Graph each function and state the domain and range

a.  $g(x) = 3(2)^{x-1}$

Domain:

Range:



b.  $f(x) = -2\sqrt{x} + 3$

Domain:

Range:

