

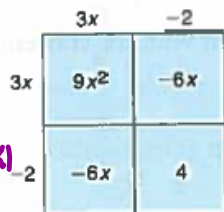
**CHAPTER 10 Test**

1. Explain what it means to *factor* a polynomial.

to write as a product of polynomials

2. Write two monomials whose GCF is 1.  $3x$  and  $7y$

3. Write the trinomial and its binomial factors shown by the model.  $9x^2 - 12x + 4$   $(3x-2)(3x-2)$



4. List two different methods of factoring polynomials.  $2$  binomials, GCF, difference of squares, perfect square trinomial

5. Classify the number 15 as prime or composite. Explain your reasoning. it has more than 2 factors

Exercise 3

Factor each monomial.

6.  $25x^2y^2$   $5 \cdot 5 \cdot x \cdot x \cdot y \cdot y$       7.  $-15b^3$   $-1 \cdot 3 \cdot 5 \cdot b \cdot b \cdot b$       8.  $24a^2b$   $2 \cdot 2 \cdot 2 \cdot 3 \cdot A \cdot A \cdot b$

Find the GCF of each set of numbers or monomials.

9. 24, 60  $12$       10.  $16a^2, 30a^3$   $2A^2$       11.  $20a^2b, 25a^2b^2$   $5A^2b$

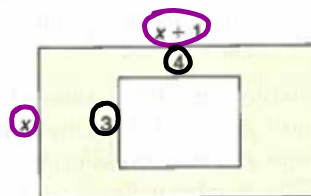
Factor each polynomial. If the polynomial cannot be factored, write *prime*.

12.  $12x^2 + 18x$   $6x(2x+3)$       13.  $3x^2y - 12xy^2$   $3xy(x-4y)$   
 14.  $6a^3 + 8a^2 + 2a$   $2A(3A^2+4A+1)$       15.  $x^2 + 9x + 8$   $(x+1)(x+8)$   
 16.  $m^2 - 10m + 24$   $(m-4)(m-6)$       17.  $y^2 - 3y - 18$   $(y-6)(y+3)$   
 18.  $3x^2 + x - 14$   $(3x+7)(x-2)$       19.  $3m^2 + 17m + 10$   $(3m+2)(m+5)$   
 20.  $2x^2 - 18$   $2(x-3)(x+3)$       21.  $n^2 - 8n - 16$  *prime*  
 22.  $y^2 + 10y + 25$   $(y+5)(y+5)$       23.  $25m^2 - 16$   $(5m+4)(5m-4)$   
 24.  $3r^2 + r + 1$  *prime*      25.  $6x^3 + 15x^2 - 9x$   $3x(2x-1)(x+3)$

26. **Geometry** Find the area of the shaded region.

Express the area in factored form.

$A_{big} = x(x+1) = x^2 + x$   
 $A_{small} = 3 \cdot 4 = 12$



$A_{shaded} = x^2 + x - 12$   
 $A_{shaded} = (x+4)(x-3)$

