

**Algebra Lesson 8-2A**  
**Multiplying and Factoring Polynomials.**

p. 373 #37, 38, 43-48 all.

**Challenge: #53-55 all.**

**Multiply**  
-24  
-5  
**Add**

**Multiply**  
45  
-18  
**Add**

37)  $-7z^3+6z^2+2z-5$

38)  $7a^3+11a^2-4a-4$

43)  $-x^4+x^3+15x$

44)  $-7g^8-2g^3-11g^2+2g$

45)  $-h^{10}-5h^9+8h^5+2h^4$

46)  $t^4+4t+6$

47)  $-5b^9+3b^8-4b^7+8b$

48)  $-5k^4+k^3-k^2+11$

53)  $5a^3-5ab$

54)  $-p^4q^4-11p^4q+14pq^8$

55)  $p(t)=31.7t+1674.8$   
1,801,600

The difference bw  
Men and Women  
enrolled in college.

Due tomorrow: p.377 #1-4 all; 13-16 all

**54.**  $(9pq^6 - 11p^4q) - (-5pq^6 + p^4q^4)$

$$37. (-7z^3 + 3z - 1) - (-6z^2 + z + 4)$$

$$38. (7a^3 - a + 3a^2) + (8a^2 - 3a - 4)$$

**Simplify. Write each answer in standard form.**

$$43. (x^3 + 3x) + (12x - x^4)$$

$$44. (6g - 7g^8) - (4g + 2g^3 + 11g^2)$$

$$45. (2h^4 - 5h^9) - (-8h^5 + h^{10})$$

$$46. (-4t^4 - 9t + 6) + (13t + 5t^4)$$

$$47. (8b - 6b^7 + 3b^8) + (2b^7 - 5b^9)$$

$$48. (11 + k^3 - 6k^4) - (k^2 - k^4)$$

37.  $(-7z^3 + 3z - 1) + (-6z^2 + z + 4)$

~~$(-7z^3 + 3z - 1) + (-6z^2 + z + 4)$~~

~~$-7z^3 + 6z^2 + 2z - 5$~~

$-7z^3 + 6z^2 + 2z - 5$

$$\cancel{(7a^3 - a + 3a^2)} + \cancel{(8a^2 - 3a - 4)}$$

$$7a^3 + 11a^2 - 4a - 4$$

48.  $(11 + k^3 - 6k^4) - (k^2 - k^4)$

$$-5k^4 + k^3 - k^2 + 11$$

$$1) (-5x^4 + x^2) - (x^3 + 8x^2 - x)$$

$$2) (7y^3 - 3y^2 + 4y) + (8y^4 + 3y^2)$$

## Polynomials

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**Objective:** Today we will learn how to multiply and factor polynomials.

$$\begin{array}{c} \mathbf{x} \\ \mathbf{x} \end{array} \begin{array}{c} \mathbf{x} \\ \mathbf{x} \end{array} = \mathbf{x}^2$$

$$1 \cdot \mathbf{x} = \mathbf{x}$$

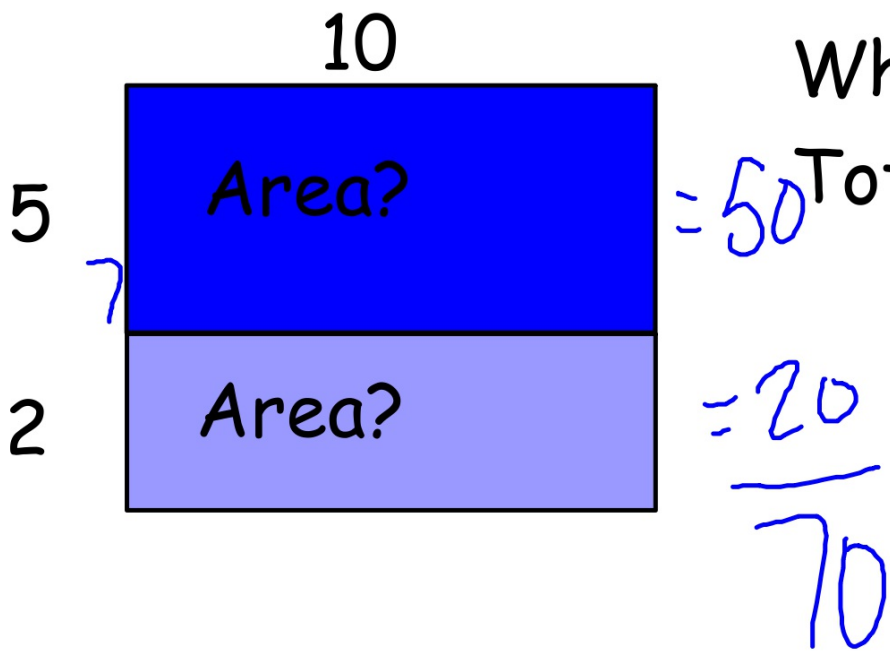
$$1 \cdot 1 = 1$$

10

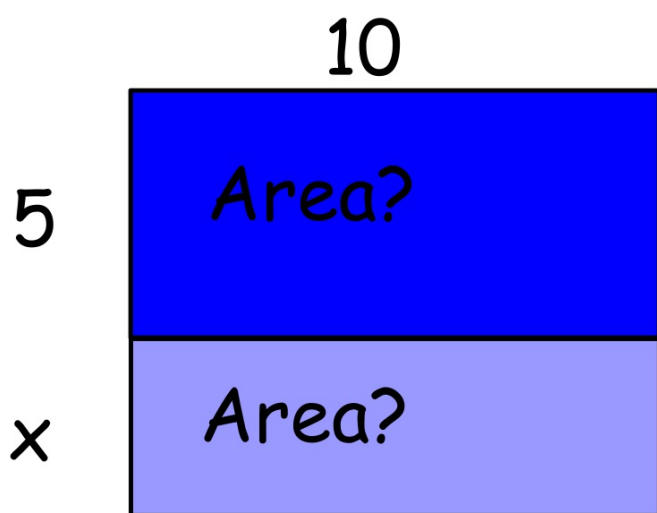
5



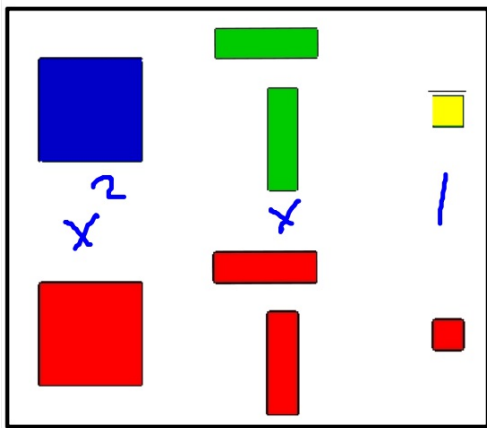
= 50



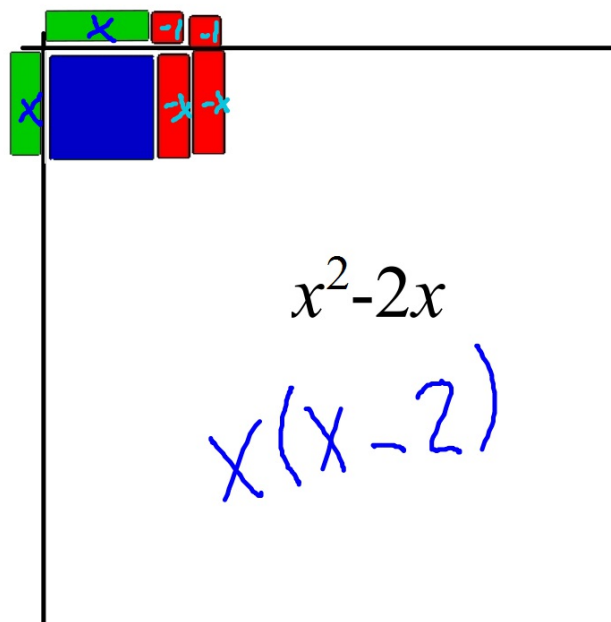
What is the  
Total Area?



What is the  
Total Area?



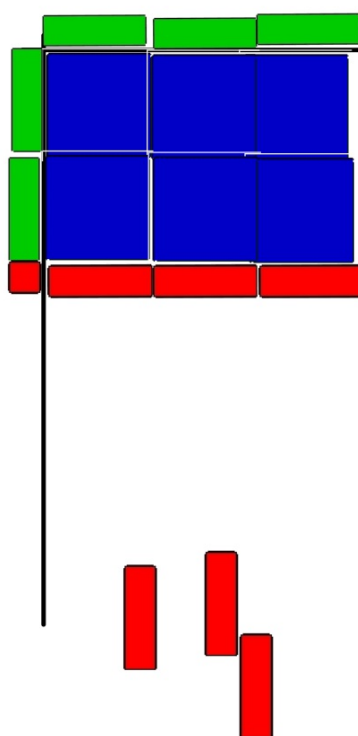
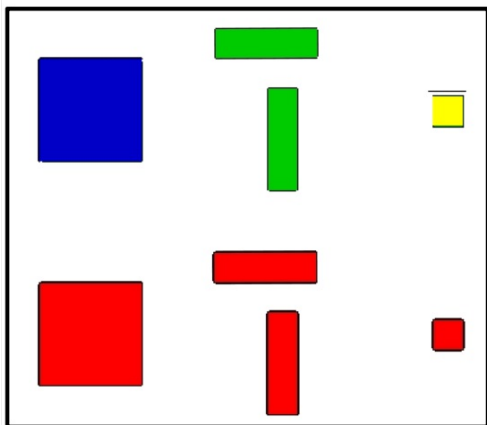
$-x^2 - x - 1$



$x^2 - 2x$

$x(x - 2)$





$$6x^2 - 3x$$

$$3x(2x - 1)$$

**Simplify each product.**

1.  $8m(m + 6)$

2.  $(x + 10)3x$

3.  $9k(7k + 4)$

4.  $-5a(a - 1)$

5.  $2x^2(9 + x)$

6.  $-p^2(p - 11)$

7.  $2x(6x^3 - x^2 + 5x)$

8.  $4y^2(9y^3 + 8y^2 - 11)$

9.  $-5c^3(9c^2 - 8c - 5)$

10.  $-7q^2(6q^5 - 2q - 7)$

11.  $-3g^7(g^4 - 6g^2 + 5)$

12.  $-4x^6(10x^3 + 3x^2 - 1)$

**Find the common factor of the terms of each polynomial.**

13.  $15w + 21$

14.  $6a^2 - 8a$

15.  $36v + 24$

16.  $x^3 + 7x^2 - 5x$

17.  $5b^3 + 15b - 30$

18.  $9x^3 - 6x^2 + 12x$

$15w + 21$   
 $3(5w + 7)$

$6a^2 - 8a$   
 $2a(3a - 4)$