

Questions from Homework

$$\textcircled{21} \quad \left(\frac{4}{9}\right) - 16x^2$$

$$\left(\frac{2}{3} + 4x\right)\left(\frac{2}{3} - 4x\right)$$

$$\textcircled{42} \quad (x+y)^2 - 36$$

$$[(x+y)+6][(x+y)-6]$$

$$(x+y+6)(x+y-6)$$

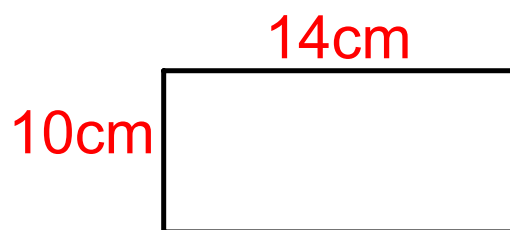
$$\textcircled{45} \quad (2x+y)^2 - (3x+y)^2$$

$$[(2x+y)+3x+y][(2x+y)-3x-y]$$

$$[2x+y+3x+y][2x+y-3x-y]$$

$$(\underline{5x+2y})(\underline{-x})$$

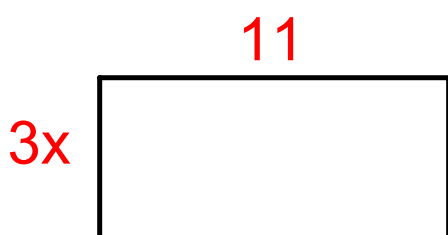
Determine the area:



$$A = l \times w$$

$$A = 14 \times 10 = 140\text{cm}^2$$

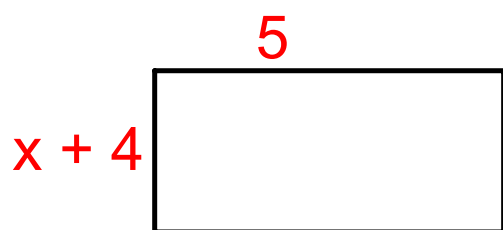
Determine the area:



$$A = l \times w$$

$$A = 11 \times 3x = 33x \text{ units}^2$$

Determine the area:



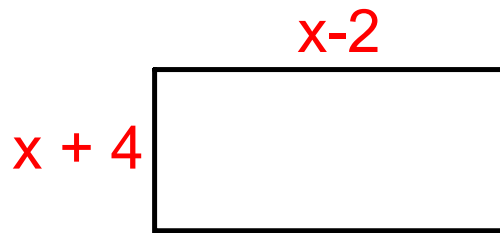
$$A = l \times w$$

$$A = 5 \times (x + 4)$$

$$A = 5(x + 4)$$

$$A = 5x + 20$$

Determine the area:



$$A = l \times w$$

$$A = (x-2)(x+4)$$

$$A = x^2 + \underline{4x} - \underline{2x} - 8$$

$$A = x^2 + \underline{2x} - 8$$

$$_ \quad _ \quad _ = 2$$

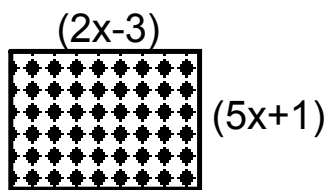
$$_ \quad _ \quad _ = -8$$

$$-8$$

$$-1 \times 8$$

$$-2 \times 4$$

Determine the area:



$$\begin{aligned} &(2x-3)(5x+1) \\ &10x^2+2x-15x-3 \\ &10x^2-13x-3 \end{aligned}$$

Which of the following can be represented by a rectangle? → length x width

$$\begin{array}{l} \frac{3}{-} + \frac{-10}{-} = -7 \\ \frac{3}{-} \times \frac{-10}{-} = -30 \\ -30 \\ 1 \times -30 \\ 2 \times -15 \\ \textcircled{3 \times -10} \\ 5 \times -6 \end{array}$$

$$\begin{array}{l} \underline{5a^2} - \underline{7a} - \underline{6} \\ (a + 3)(a - 10) \\ (5a + 3)(a - 2) \\ \begin{array}{l} \uparrow \quad \uparrow \\ \text{length} \quad \text{width} \end{array} \end{array}$$

$$\underline{5a^2} - \underline{12a} - \underline{6}$$

Not Possible!!

$$\begin{array}{l} \underline{\quad} + \underline{\quad} = -12 \\ \underline{\quad} \times \underline{\quad} = -30 \\ -30 \\ 1 \times -30 \\ 2 \times -15 \quad ?? \\ 3 \times -10 \\ 5 \times -6 \end{array}$$

Common Factoring

Start Here

$$g^4x^2 - g^9x^5$$

$$4r^8 - 16r^7s^9 + 2r^{10}$$

$$22w^7 - 88z^{14}$$

Trinomial

3 terms

$$x^2 - 9x + 16$$

$$4z^2 + 16z + 7$$

$$m^2 - 10m - 9$$

Difference of Squares

2 terms

$$64v^2 - 81$$

$$x^2 - 16$$

Choose a polynomial out of the bag and then determine which type of factoring it is.

How are your Factoring Skills?

Factor each of the following:

1. $15m^5n^3p - 30n^7p^3 + 60m^4n^8p^5$

2. $x^2 - 2x - 35$

3. $270xy^2 - 180x^3y - 90xy$

4. $5x^2 + 14xy - 3y^2$

5. $4x^2 - 14x - 8$



1. $15m^5n^3p - 30n^7p^3 + 60m^4n^8p^5$

$$15n^3p(m^5 - 2n^4p^2 + 4m^4n^5p^4)$$

$$\underline{5} + \underline{-7} = -2$$

$$\underline{5}x \underline{-7} = -35$$

$$-35$$

$$1x - 35$$

$$5x - 7$$

$$2. \quad x^2 - 2x - 35$$

$$(x + 5)(x - 7)$$

$$3. \quad 270xy^2 - 180x^3y - 90xy$$

$$90xy(3y - 2x^2 - 1)$$

4. $5x^2 + 14xy - 3y^2$

Prime (Nothing Common)

$$\underline{a} + \underline{-16} = -14$$

$$\underline{a} \times \underline{-16} = -32$$

$$-3a$$

$$1x - 3a$$

$$\underline{2x - 16}$$

$$4x - 8$$

$$5. \quad 4x^2 - 14x - 8$$

$$\left(x + \frac{a}{4}\right) \left(x - \frac{16}{4}\right)$$

$$\left(x + \frac{1}{2}\right) (x - 4)$$

$$(2x + 1)(x - 4)$$

Homework

$$\textcircled{1} -45b^5 - 5$$

$$-5(9b^5 + 1)$$

$$\textcircled{3} 9x^4 + 9x^3 - 5x^2$$

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

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

$$\textcircled{6} -90v^7 + 72v^5 + 45v^3 - 36v$$

$$9v(-10v^6 + 8v^4 + 5v^2 - 4)$$

$$9v(-10v^6 + 8v^4 + 5v^2 - 4)$$

$$\textcircled{9} 2r^2 - 4r - 70$$

$$2(r^2 - 2r - 35)$$

↓
trinomial

$$2(r+5)(r-7)$$

$$\begin{array}{l} 5 + -7 = -2 \\ 5 \times -7 = -35 \\ -35 \\ 1 \times 35 \\ 5 \times -7 \end{array}$$

Hard Trinomial

$$\textcircled{12} 5n^2 - 51n + 10$$

$$(n - \frac{1}{5})(n - 50)$$

$$(5n - 1)(n - 50)$$

$$\begin{array}{l} -1 + -50 = -51 \\ -1 \times 50 = 50 \quad (5 \times 10) \\ 50 \\ 1 \times 50 \\ 2 \times 25 \\ 5 \times 10 \end{array}$$

Diff of Squares

$$\textcircled{13} 4n^2 - 1$$

$$(2n + 1)(2n - 1)$$

