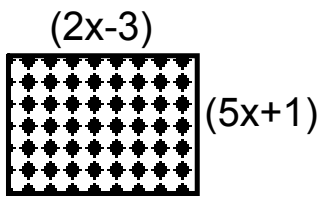


Determine the area:

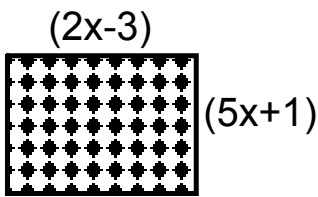


Which of the following can be represented by a rectangle?

$$5a^2-7a-6$$

$$5a^2-12a-6$$

Determine the area:



$$(2x-3)(5x+1)$$

$$10x^2 + 2x - 15x - 3$$

$$10x^2 - 13x - 3$$

Which of the following can be represented by a rectangle?

$$\underline{\quad} + \underline{\quad} = -7$$

$$\underline{\quad} \times \underline{\quad} = -30$$

- 1 -30
- 2 -15
- 3 -10
- 5 -6

$$5a^2 - 7a - 6$$

$$5a^2 + 3a - 10a - 6$$

$$a(5a+3) - 2(5a+3)$$

$$(5a+3)(a-2)$$

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

$$\underline{\quad} \times \underline{\quad} = -30$$

??

- 1 -30
- 2 -15
- 3 -10
- 5 -6

Not Possible!!

Common Factoring

$$4r^8 - 16r^7s^9 + 2r^{10}$$
$$22w^7 - 88z^{14}$$
$$g^4x^2 - g^9x^5$$

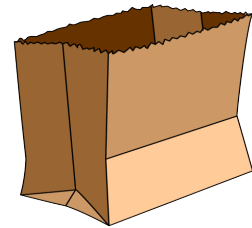
Trinomial (Decomposition)

$$x^2 - 9x + 16$$
$$4z^2 + 16z + 7$$
$$m^2 - 10m - 9$$

Difference of Squares

$$64v^2 - 81$$
$$x^2 - 16$$

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

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

$$\underline{\quad} + \underline{\quad} = -2$$

$$\underline{\quad} \times \underline{\quad} = -35$$

$$\begin{array}{r} 1 \quad -35 \\ 5 \quad -7 \end{array}$$

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

$$x^2 + 5x - 7x - 35$$

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

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

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

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

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

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

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

$$\begin{array}{r} - + = 14 \\ - \times = -15 \end{array}$$

$$\begin{array}{l} \underline{5x^2 + 15xy} \quad \underline{-y - 3y^2} \\ \downarrow \\ 5x(x + 3y) - y(x + 3y) \\ = (5x - y)(x + 3y) \\ = (5x - y)(x + 3y) \end{array}$$

$$-1 \times 15 =$$

$$\underline{\quad} + \underline{\quad} = -14$$

$$\underline{\quad} \times \underline{\quad} = -32$$

$$1 \quad -32$$

$$2 \quad -16$$

$$4 \quad -8$$

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

$$4x^2 + 2x - 16x - 8$$

$$2x(2x + 1) - 8(2x + 1)$$

$$(2x + 1)(2x - 8)$$

$$= 2(2x + 1)(x - 4)$$
$$= 2(2x^2 - 7x - 4)$$

