

DIFFERENCE OF SQUARES

$$(a^2 - b^2)$$

1. **CIRCLE** which expressions are *differences of squares*.

a) $x^2 - 81$

b) $9x^2 + 16$

c) $1 - 49x^2$

d) $4x^2 + 10$

How can you tell?

- The first term is a _____
- The second term is a _____
- The operation between them is _____

2. **Foil** these binomials. Try to use the formula for the special product (diff of squares)

a) $(x + 5)(x - 5)$

b) $(x + 9)(x - 9)$

c) $(2x + 7)(2x - 7)$

3. **Factor** each difference of squares and **check** you answer by **expanding** (using FOIL)

a) $x^2 - 36$

b) $9 - x^2$

Check (a) using FOIL

Check (b) using FOIL

4. **Factor** each difference of squares.

a) $x^2 - 25$

b) $x^2 - 16$

c) $4y^2 - 36$

d) $9y^2 - 144$

5. **Factor** each of the following. **You will have to common factor first.**

a) $2x^2 - 32$

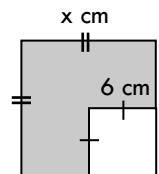
b) $3x^2 - 27$

c) $5y^2 - 20$

d) $8y^2 - 18$

6. **Application Problem:** A square has area x^2 centimetres. At one corner, a smaller square with sides 6 cm long has been removed.

a) Write the binomial to represent the **difference** between the two areas.



b) Factor the binomial to find expressions for the dimensions of an area equal to the remaining area of the large square (the shaded area).

c) Find the actual dimensions of the shaded area if $x = 10$ cm.