UNIT 6. ALGEBRA

Maths 2º ESO   I.E.S. Delgado Brackenbury

NAME: _____

1. **Match each algebraic expression with the correct phrase from the list on the right:**

1. $x + 3$ **A.** a number with five added to it

2. $x - 2$ **B.** two times a number

3. $5x$ **C.** a number with five subtracted from it

4. $x + 5$ **D.** a number with three added to it

5. $x - 5$ **E.** five times a number

6. $2x$ **F.** a number divided by ten

7. $\dfrac{10}{x}$ **G.** ten divided by a number

8. $\dfrac{x}{}$ **H.** a number with two subtracted from it

2. **True or False:**

a) "a,b,c..." is the same as saying a^1, b^1, c^1...

b) "a,b,c..." is the same as saying $1a, 1b, 1c$...

c) Letters don't have to be in alphabetical order when doing algebra

d) Numbers come before letters when they are attached to the letter (e.g. multiplied)

e) Like terms can be added and subtracted but unlike terms cannot

f) The sign in an equation (+, -) belongs to the letter or number following the sign

3. **SIMPLIFY the following expressions (i.e. take away the (X) sign):**

a) $4 \times 3x$ =
b) $a \times c$ =
c) $3 \times p$ =
d) $1 \times d$ =
e) $2a \times 4b$ =
f) $2g \times 3f$ =
g) $3r \times q \times 2p$ =
h) $1 \times 10q \times 1$ =

4. **SIMPLIFY (write the following expressions as simply as possible by adding or subtracting):**

a) $p + p$ =
b) $x + x + x$ =
c) $y + y + y + y$ =
d) $x + 3x$ =
e) $5p + 3p$ =
f) $10r - 3r$ =
g) $20x - 19x$ =
h) $6p - 5p + p$ =
i) $3x + 2x - x + 8x$ =

5. **Which of the following are LIKE terms (in each group)?**

a) $(3y, 6y, 3z)$ =
b) $(x, 2x, 4x)$ =
c) $(6a, b, 6c, 6d, 4b)$ =
d) $(3y, 2z, 4p, 8w)$ =

6. **SIMPLIFY the following expressions (by collecting like terms (adding or subtracting):**

a) $4x + 5y + 3x + 5y$ =
b) $12x + 3y + 4x$ =
c) $x + 1 + 9x + x$ =
d) $4c - c + 2$ =
e) $10x + 3y - 4x$ =
f) $5x - 4y + 2x - 2y$ =

ALGEBRAIC QUESTIONS

1. I think of a number and multiply it by four. This gives twenty. What was the number?

2. I think of a number and then take away six. If the answer is two, what is the number?

3. A quarter of a number is five. What is the number?

4. Nora is twice as old as Mike. If Nora is twelve, how old is Mike?

5. Half of a cake weighs three hundred and fifty grams. How much does the whole cake weigh?

6. Berta is half the age of Peter. If Berta is eight years old, how old is Peter?

7. Jack cuts twenty-five centimeters from a piece of wood. If this leaves him with thirty-five centimeters, how long was the piece of wood?