

LINEAR AND QUADRATIC EQUATIONS TEST - 2º ESO

Exercise 1: (0.5 points) Solve the equation $x(x-5)(x+2)(x-7) = 0$

Exercise 2: (2 points) Solve the following quadratic equations without using the formula:

- a) $27x^2 + 9x = 0$
- b) $5x^2 - 180 = 0$
- c) $x^2 - 8x = 0$
- d) $18x^2 - 36 = 0$

Exercise 3: (2 points) Solve the following equations:

- a) $x^2 + 9x + 18 = 0$
- b) $x^2 + 6x - 7 = 0$
- c) $x^2 - 8x + 16 = 0$
- d) $2x^2 + x - 15 = 0$

Exercise 4: (3 points) Work out:

a) $5(3x+2) - 3(x-6) = 6x + 2(3x-1)$ (0.5)

b) $\frac{3x+7}{9} - \frac{2(x-3)}{12} = x - \frac{5-x}{4}$ (0.75)

c) $\frac{9}{5x-7} = \frac{2}{3x+4}$ (0.5)

d) $\frac{9x}{6} = \frac{6}{x}$ (0.5)

e) $(x-9)(x+4) = -22$ (0.75)

Exercise 5: (1 point) In a right-angled triangle the base is eight cm longer than the height, and the area is 120cm^2 . Work out its dimensions.

Exercise 6: (1.5 points) The square of a number minus its third part equals the double of the number plus sixteen. Find the number.