

POLYNOMIALS AND EQUATIONS TEST - 3rd COURSE OF ESO

Exercise 1: (3.25 points) Solve the following simultaneous equations using the indicated method and then classify them:

a) $\left. \begin{array}{l} 2x - y = 7 \\ 6x - 3y = 2 \end{array} \right\}$ Substitution

b) $\left. \begin{array}{l} 2x - 5y = 1 \\ 3x + 4y = 3 \end{array} \right\}$ Elimination

c) $\left. \begin{array}{l} x - 5y = 6 \\ 3x + y = -14 \end{array} \right\}$ Graphically

d) $\left. \begin{array}{l} \frac{x}{2} + \frac{y}{3} = 8 \\ \frac{2x}{8} - \frac{3y}{4} = -7 \end{array} \right\}$

Exercise 2: (1.5 points) Convert these expressions using notable products:

a) $z^2 - 16z + 64 =$

b) $(x^2w - y^3)(x^2w + y^3) =$

c) $4a^4 + 12a^2 + 1 =$

d) $(7s^2t^5 + 2st^4)^2 =$

Exercise 3: (3 points) Find the solutions of the following equations:

a) $(x-5)^2 + (2x-20)^2 = 100$

b) $\frac{2x+4}{17} = \frac{3x+15}{2x}$

c) $\frac{5x-2}{4} - \frac{2x-5}{6} = \frac{x}{8}$

Exercise 4: (0.75 points) Expand $(3a+b)^4 =$

Exercise 5: (1.5 points) Find the dimensions of the following right-angled triangle

