Exercise 1: **(3 ptos)** Solve the following second degree equations:

a) $5x^2 - 80 = 0 \rightarrow x = \pm 4$

b) $10x^2 + 5x = 0 \rightarrow x = 0 \quad x = \dfrac{-1}{2}$

c) $x^2 - 8x + 12 = 0 \rightarrow x = 2 \quad x = 6$

d) $x^2 - 14x + 49 = 0 \rightarrow x = 7$ double

e) $25x^2 - 4 = 0 \rightarrow x = \pm \dfrac{2}{5}$

f) $2x^2 - 5x - 3 = 0 \rightarrow x = 3 \quad x = \dfrac{-1}{2}$

Exercise 2: **(1 pto)** Work out $(x-4)^2 + 9 = 3x - 5 \rightarrow x = 5 \quad x = 6$

Exercise 3: **(1 pto)** In an isosceles triangle the length of the base is 3 cm less than the length of the altitude, and the area measures 14 cm^2. Find the base and the altitude
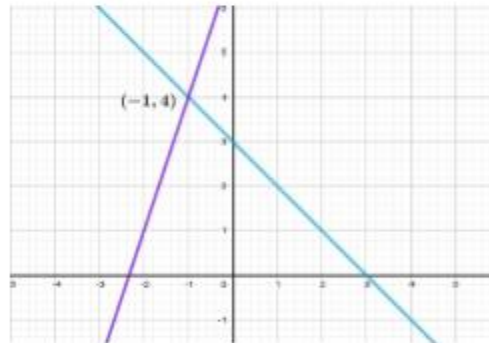
The length of the base is 3 cm and the length of the altitude is 7 cm

Exercise 4: **(2.75 ptos)** Solve the following systems using the indicated method:

a) $\left.\begin{array}{l} 2x - y = 7 \\ 5x + 2y = 13 \end{array}\right\}$ Substitution $\rightarrow x = 3 \quad y = -1$

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

c) $\left.\begin{array}{l} x + y = 3 \\ 3x - y = -7 \end{array}\right\}$ Graphically

$(-1, 4)$

Exercise 5: **(1.5 ptos)** Solve the following systems using the method that you prefer and then **classify** them:

a) $\left.\begin{array}{l} 3x - y = 5 \\ 6x - 2y = 1 \end{array}\right\}$ $\rightarrow$ It has no solution $\rightarrow$ Inconsistent

b) $\left.\begin{array}{l} 3x + 2y = 7 \\ 4x - 5y = 10 \end{array}\right\}$ $\rightarrow x = \dfrac{55}{23} \quad y = \dfrac{-2}{23} \rightarrow$ Consistent independent

Exercise 6: (0.75 ptos) A kilo of apricots and three kilos of cherries cost $11€$, while two kilos of apricots and one kilo of cherries cost $7€$. What's the price of a kilo of each product?

A kilo of apricots costs 2€ and a kilo of cherries costs 3€