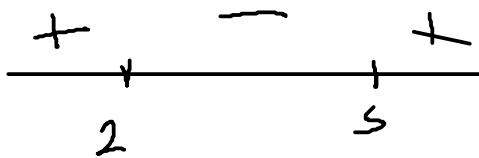


pág 68 uº 8 e)

$$x^2 - 3x + 2 \leq 4x - 8$$

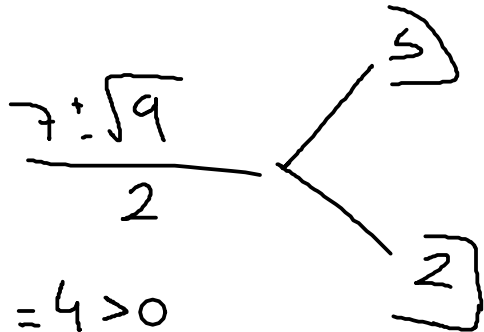


$$x^2 - 7x + 10 \leq 0$$

Solución

$$x^2 - 7x + 10 = 0$$

$$x = \frac{7 \pm \sqrt{49 - 40}}{2} = \frac{7 \pm \sqrt{9}}{2}$$



$$[2, 5]$$

$$x = 1; 1^2 - 7 + 10 = 4 > 0$$

$$x = 4; 16 - 28 + 10 = -2 < 0$$

$$x = 6; 36 - 42 + 10 = 4 > 0$$

$$a) \begin{cases} x - y = 15 \\ xy = 100 \end{cases} \cdot x = 15 + y$$

$$(15 + y)y = 100 \cdot 15y + y^2 = 100 \cdot y^2 + 15y - 100 = 0$$

$$y^2 + 15y - 100 \leftarrow \begin{matrix} 5 \\ -20 \end{matrix}$$

$$y = 5; x = 15 + 5 = 20$$

$$y = -20; x = 15 - 20 = -5$$

$$b) \begin{cases} x^2 + y^2 = 41 \\ x^2 - y^2 = 9 \end{cases}$$

$$\begin{array}{r} x^2 + y^2 = 41 \\ x^2 - y^2 = 9 \\ \hline \end{array}$$

$$2x^2 = 50; x^2 = 25; x = \sqrt{25} = \pm 5$$

$$5^2 + y^2 = 41;$$

$$25 + y^2 = 41;$$

$$y^2 = 41 - 25;$$

$$y^2 = 16; y = \sqrt{16} = \pm 4$$

$x = 5$	$x = 5$	$x = -5$	$x = -5$
$y = 4$	$y = -4$	$y = 4$	$y = -4$

$$c) \begin{cases} x^2 + xy + y^2 = 21 \\ x + y = 1 \end{cases} \quad x = 1 - y;$$

$$(1-y)^2 + (1-y) \cdot y + y^2 = 21$$

$$1 - 2y + y^2 + y - y^2 + y^2 = 21$$

$$y^2 - y - 20 = 0$$

$$y = \frac{1 \pm \sqrt{1+80}}{2} = \frac{1 \pm 9}{2} = \begin{cases} \frac{10}{2} = 5 \\ \frac{-8}{2} = -4 \end{cases}$$

$$x = 1 - y$$

$$y = 5; x = 1 - 5 = -4$$

$x = 5$	$x = -4$
$y = -4$	$y = 5$

$$y = -4; x = 1 + 4 = 5$$

Pag 65 ej 2 (d)

$$d) \begin{cases} \frac{2x}{x} + \frac{3}{y} - \frac{6}{xy} = 1; \frac{2x}{xy} + \frac{3x}{xy} - \frac{6}{xy} = 1xy; 2y + 3x - 6 = 1xy \\ x + y = 5 \end{cases} = 1xy$$

$$\begin{cases} 2y + 3x - 6 = 1xy; 2y + 3(5-y) - 6 = 1(5-y)y; \\ x + y = 5; x = 5 - y \end{cases}$$

$$2y + 15 - 3y - 6 = 5y - y^2; 2y + 15 - 3y - 6 - 5y + y^2 = 0;$$

$$y^2 - 6y + 9 = 0$$

$$y = \frac{6 \pm \sqrt{36 - 36}}{2} = \frac{6 \pm 0}{2} = \boxed{3}$$

$$x = 5 - 3 = \boxed{2}$$

$x = 2$
$y = 3$

pag 77 n° 2

$$a) \begin{cases} \sqrt{x} = 4 - y & (\sqrt{x})^2 = (4 - y)^2 \\ y^2 = 4 + x & x = 16 - 8y + y^2 \end{cases}$$

$$\therefore y^2 = 4 + 16 - 8y + y^2; \quad 8y = 20; \quad y = \frac{20}{8} = \frac{5}{2}$$

$$\left(\frac{5}{2}\right)^2 = 4 + x$$

$$\frac{25}{4} = 4 + x; \quad \frac{25}{4} - 4 = x; \quad \boxed{x = \frac{9}{4}}$$

$$\boxed{y = \frac{5}{2}}$$

$$b) \begin{cases} xy = 15 \cdot x = \frac{15}{y} \\ 4x^2 - y^2 = 11 \end{cases}$$

$$4\left(\frac{15}{y}\right)^2 - y^2 = 11 \quad , \quad 4\left(\frac{225}{y^2}\right) - y^2 = 11$$

$$\frac{900}{y^2} - y^2 = 11 \quad , \quad \frac{900}{y^2} - \frac{y^4}{y^2} = \frac{11y^2}{y^2}$$

$$900 - y^4 = 11y^2 \quad , \quad -y^4 - 11y^2 + 900 = 0 \quad , \quad y^4 + 11y^2 - 900 = 0$$

$$t = y^2 \quad t^2 + 11t - 900 = 0$$

$$t = \frac{11 \pm \sqrt{121 + 3600}}{2} = \frac{11 \pm 61}{2} \begin{cases} 36 \\ -25 \end{cases}$$

$$t=36, y^2=36, y=\pm 6$$
$$t=-25, y^2=-25,$$

$$y=6; x=\frac{15}{6}=\frac{5}{2}$$

$$y=-6; x=\frac{15}{-6}=-\frac{5}{2}$$