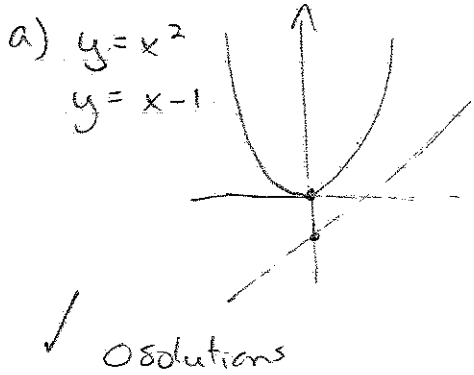


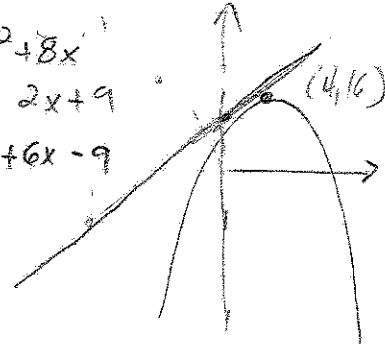
# Revision 11 - Ex 2

Vision p. 233 # 1, 2, 3, 5, 6, 7ab, 8, 9, 10, 12, 14, 16, 19, 21a

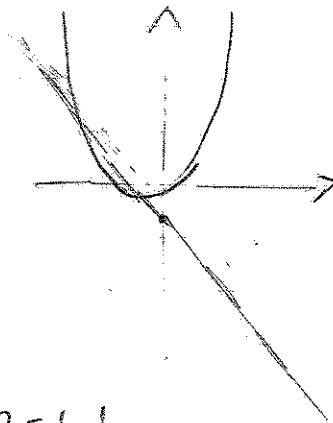


b) ①  $y = 2x + 9$  ②  $y = -x^2 + 8x$   
③  $y = -x^2 + 8x$  ④  $y = 2x + 9$   
 $0 = -x^2 + 6x - 9$

①  $0 = x^2 - 6x + 9$   
②  $0 = (x-3)(x-3)$   
1 solution



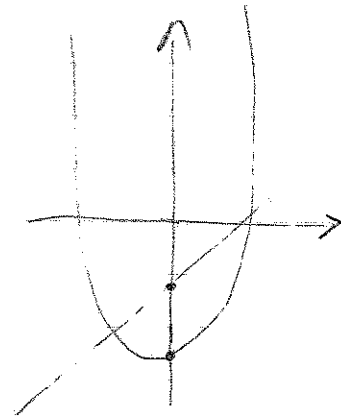
c)  $y = x^2 + x$   
 $y = x^2 + x + \frac{1}{4} - \frac{1}{4}$   
 $y = (x + \frac{1}{2})^2 - \frac{1}{4}$   
 $S(-\frac{1}{2}, -\frac{1}{4})$



$x + 2y + 1 = 0$   
 $2y = -x - 1$   
 $y = -\frac{1}{2}x - \frac{1}{2}$

2 solutions

d)  $2x - y = 5$   
 $y = 2x - 5$   
 $y = x^2 - 8$   
 $S(0, -8)$



2 solutions

e)  $x + y = 6$   
 $y = -x + 6$   
 $xy = 9$   
 $y = \frac{9}{x}$

$x + \frac{9}{x} = 6$   
 $x^2 + 9 = 6x$   
 $x^2 - 6x + 9 = 0$   
 $(x-3)(x-3)$   
 $x = 3$   
1 solution ✓

f)  $xy = 12 \rightarrow y = \frac{12}{x}$   
 $y = 6 - 2x$

$\frac{12}{x} = 6 - 2x$   
 $12 = 6x - 2x^2$   
 $2x^2 - 6x + 12 = 0$   
 $x^2 - 3x + 6 = 0$   
 $x^2 - 3x + \frac{9}{4} - \frac{9}{4} + 6 = 0$

$(x - \frac{3}{2})^2 + \frac{15}{4} = 0$

$(x - \frac{3}{2})^2 = -\frac{15}{4} \rightarrow 0$  solutions

$$\checkmark 2. \quad d_1 \quad \begin{aligned} 2x + y - 6 &= 0 \\ y &= -2x + 6 \end{aligned}$$

$$\begin{aligned} y &= -(x+1)(x-3) \\ y &= -(x^2 + x - 3x - 3) \\ y &= -x^2 + 2x + 3 \end{aligned}$$

$$\begin{aligned} -2x + 6 &= -x^2 + 2x + 3 \\ 0 &= -x^2 + 4x - 3 \\ 0 &= x^2 - 4x + 3 \\ &= (x-3)(x-1) \\ x &= 3 \quad x = 1 \end{aligned}$$

→ 2 points

$$d_2 \quad \begin{aligned} 2x + y - 7 &= 0 \\ y &= -2x + 7 \end{aligned}$$

$$\begin{aligned} -2x + 7 &= -x^2 + 2x + 3 \\ 0 &= -x^2 + 4x - 4 \\ 0 &= x^2 - 4x + 4 \\ &= (x-2)(x-2) \end{aligned}$$

Un seul point.

d<sub>2</sub>

$$d_3 \quad \begin{aligned} 2x + y - 8 &= 0 \\ y &= -2x + 8 \end{aligned}$$

$$3. \quad a) \quad \begin{aligned} \textcircled{1} \quad y &= x^2 + 2x - 15 \\ \textcircled{2} \quad y &= 2x + 10 \end{aligned}$$

$$\begin{aligned} 0 &= x^2 - 25 \\ x^2 &= 25 \\ x &= \pm 5 \end{aligned}$$

$$\checkmark \quad \begin{aligned} x=5 &\rightarrow y=20 & x=-5 &\rightarrow y=0 \\ (5, 20) & \text{ et } (-5, 0) \end{aligned}$$

$$\checkmark b) \quad \begin{aligned} \textcircled{1} \quad y &= x^2 - 10x + 10 \\ \textcircled{2} \quad y &= x - 18 \end{aligned}$$

$$\begin{aligned} 0 &= x^2 - 11x + 28 \\ 0 &= (x-4)(x-7) \\ x &= 4 & x &= 7 \\ y &= -14 & y &= -11 \\ (4, -14) & & (7, -11) \end{aligned}$$

$$\checkmark c) \quad \begin{aligned} \textcircled{1} \quad y &= x^2 - 3x - 4 \\ \textcircled{2} \quad y &= x - 8 \end{aligned}$$

$$\begin{aligned} 0 &= x^2 - 4x + 4 \\ 0 &= (x-2)(x-2) - 4 \\ x &= 2 \\ y &= -6 \\ (2, -6) \end{aligned}$$

p233 Vision

$$3. d) y = -2x^2 + 5x + 5 \quad \text{--- + --- = 7}$$

$$- \textcircled{1} y = \frac{-2x + 10}{0} \quad \text{--- x --- = 14}$$

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

$$0 = -2 \left( x^2 + \frac{7}{2}x \right) - 7$$

$$0 = -2 \left( x^2 + \frac{7}{2}x + \frac{49}{16} - \frac{49}{16} \right) - 7$$

$$0 = -2 \left( x + \frac{7}{4} \right)^2 + \frac{49}{8} - 7$$

$$0 = -2 \left( x + \frac{7}{4} \right)^2 - 1$$

$$-1 = -2 \left( x + \frac{7}{4} \right)^2$$

$$-0.5 = \left( x + \frac{7}{4} \right)^2$$

= aucune solution

$$3. e) y = -\frac{1}{3}x + \frac{2}{9}$$

$$\textcircled{1} y = x^2 - 3x + 2$$

$$- \textcircled{2} y = -\frac{1}{3}x + \frac{2}{9}$$

$$0 = x^2 + \frac{8x}{3} + \frac{16}{9}$$

$$-12 + -12 = -24$$

$$-12x - 12 = -144$$

$$0 = 9x^2 - 24x + 16$$

$$0 = 9x^2 - 12x - 12x + 16$$

$$0 = 3x(3x-4) - 4(3x-4)$$

$$0 = (3x-4)(3x-4)$$

$$x = \frac{4}{3} \quad y = \frac{2}{9}$$

$$\left(\frac{4}{3}, \frac{2}{9}\right)$$

✓ #3

p. 233

$$① y = -3x^2 + 4x + 5 \quad -x = -3$$

$$② y = 3x + 4 \quad -t = 1$$

$$0 = -3x^2 + x + 1$$

$$0 = -3\left(x^2 - \frac{1}{3}x\right) + 1$$

$$\frac{1}{3} \div 2 = \frac{1}{6}$$

$$0 = -3\left(x^2 - \frac{1}{3}x + \frac{1}{36} - \frac{1}{36}\right) + 1$$

$$\left(\frac{1}{6}\right)^2 = \frac{1}{36}$$

$$0 = -3\left(x - \frac{1}{6}\right)^2 + \frac{3}{36} + 1 \rightarrow \frac{39}{36}$$

$$0 = -3\left(x - \frac{1}{6}\right)^2 + \frac{13}{12}$$

$$-\frac{13}{12} = -3\left(x - \frac{1}{6}\right)^2$$

$$\frac{13}{36} = \left(x - \frac{1}{6}\right)^2$$

$$\pm \frac{\sqrt{13}}{6} = x - \frac{1}{6}$$

$$\frac{1 \pm \sqrt{13}}{6} = x$$

$$x_1 = \frac{1 + \sqrt{13}}{6}$$

$$x_2 = \frac{1 - \sqrt{13}}{6}$$

$$y = 3x + 4$$

$$y_2 = \frac{9 - \sqrt{13}}{2}$$

$$y_1 = 3\left(\frac{1 + \sqrt{13}}{6}\right) + 4$$

$$y = \frac{1 + \sqrt{13}}{2} + 8$$

$$y_1 = \frac{9 + \sqrt{13}}{2}$$

$$\left(\frac{1 + \sqrt{13}}{6}; \frac{9 + \sqrt{13}}{2}\right) \left(\frac{1 - \sqrt{13}}{6}; \frac{9 - \sqrt{13}}{2}\right)$$

$$5. \quad \begin{array}{l} \text{b) } ① \quad y = -0,2x^2 + 2x \\ \quad \quad ② \quad y = \quad \quad \quad +0,5x + 0,7 \end{array}$$

$$0 = -0,2x^2 + 1,5x - 0,7$$

$$0 = x^2 - 7,5x + 3,5$$

$$0 = x^2 - 7,5x + 14,0625 - 14,0625 + 3,5$$

$$0 = (x - 3,75)^2 - 10,5625$$

$$10,5625 = (x - 3,75)^2$$

$$\pm 3,25 = x - 3,75$$

$$x = 3,75 \pm 3,25$$

$$x_1 = 7$$

$$x_2 = 0,5$$

$$y_1 = 4,2$$

$$y_2 = 0,95$$

$$(7; 4,2)$$

$$(0,5; 0,95)$$

$$\checkmark \quad 6. \quad \text{a) } 3x - y = 2 \rightarrow y = 3x - 2$$

$$① \quad y = -x^2 = x + 12$$

$$② \quad y = \quad \quad \quad 3x - 2$$

$$② \rightarrow ① \quad 3x - 2 = -x^2 - x + 12$$

$$0 = -x^2 - 4x + 14$$

$$0 = x^2 + 4x - 14$$

$$0 = x^2 + 4x + 4 - 4 - 14$$

$$0 = (x+2)^2 - 18$$

$$18 = (x+2)^2$$

$$\pm \sqrt{18} = x+2$$

$$-2 \pm \sqrt{18} = x$$

$$y = 3x - 2$$

$$x_1 = -2 + \sqrt{18}$$

$$x_2 = -2 - \sqrt{18}$$

$$y_1 = 3(-2 + \sqrt{18}) - 2 \quad y_2 = 3(-2 - \sqrt{18}) - 2$$

$$y_1 = -6 + 3\sqrt{18} - 2 \quad y_2 = -6 - 3\sqrt{18} - 2$$

$$y_1 = -8 + 3\sqrt{18} \quad y_2 = -8 - 3\sqrt{18}$$

$$(-2 + \sqrt{18}, -8 + 3\sqrt{18}) \quad (-2 - \sqrt{18}, -8 - 3\sqrt{18})$$

$$\checkmark \quad \text{b) } x = y + 2 \rightarrow y = x - 2$$

$$y = x^2 + 4$$

$$x - 2 = x^2 + 4$$

$$0 = x^2 - x + 6$$

$$-+ - = -1$$

$$0 = x^2 - x + \frac{1-1}{4} + 6$$

$$-x - = 6$$

$$0 = \left(x - \frac{1}{2}\right)^2 + \frac{23}{4}$$

$$-\frac{23}{4} = \left(x - \frac{1}{2}\right)^2$$

Aucune solution

$$6. c) \quad y = 2(x-1)^2 - 5$$

$$x + y - 2 = 0$$

$$y = -x + 2$$

$$-x + 2 = 2(x-1)^2 - 5$$

$$0 = x - 7 + 2(x-1)(x-1)$$

$$0 = x - 7 + 2(x^2 - 2x + 1)$$

$$0 = x - 7 + 2x^2 - 4x + 2$$

$$0 = 2x^2 - 3x - 5 \quad \underline{2} + \underline{-5} = -3$$

$$0 = 2x^2 + 2x - 5x - 5 \quad \underline{2} \underline{x} \underline{-5} = -10$$

$$0 = 2x(x+1) - 5(x+1)$$

$$0 = (2x - 5)(x + 1)$$

$$x_1 = \frac{5}{2} \quad x_2 = -1$$

$$y_1 = \frac{-1}{2} \quad y_2 = 3$$

$$\checkmark \left( \frac{5}{2}, \frac{-1}{2} \right) \quad (-1, 3)$$

$$e) \quad 3x + y + 11 = 0$$

$$x^2 - 10x - y - 5 = 0$$

$$\textcircled{1} \quad y = -3x - 11$$

$$\textcircled{2} \quad x^2 - 10x - 5 = y$$

$$\textcircled{1} + \textcircled{2}$$

$$-3x - 11 = x^2 - 10x - 5$$

$$0 = x^2 - 7x + 6 \quad \underline{-1} + \underline{6} = -7$$

$$0 = (x-1)(x-6) \quad \underline{-1} \underline{x} \underline{-6} = 6$$

$$x_1 = 1 \quad x_2 = 6$$

$$y_1 = -14 \quad y_2 = -29$$

$$(1, -14) \quad (6, -29)$$

?

$$d) \quad y = 2(x-2)(x-4)$$

$$x = 3y + 4$$

$$3y = x - 4$$

$$\checkmark y = \frac{x-4}{3}$$

$$\frac{x-4}{3} = 2(x^2 - 6x + 8)$$

$$\frac{x-4}{3} = 2x^2 - 12x + 16$$

$$0 = 2x^2 - \frac{37}{3}x + \frac{52}{3}$$

$$0 = 6x^2 - 37x + 52 \quad -x = 312$$

$$-+- = -37$$

$$0 = 6(x^2 - 37x) + 52$$

$$0 = 6(x^2 - 37x + \frac{1369}{4} - \frac{1369}{4}) + 52$$

$$0 = 6\left(x - \frac{37}{2}\right)^2 - \frac{8214}{144} + \frac{7488}{144}$$

$$0 = 6\left(x - \frac{37}{2}\right)^2 - \frac{726}{144}$$

$$\frac{726}{144} = \left(x - \frac{37}{2}\right)^2$$

$$\frac{\sqrt{726}}{12} = x - \frac{37}{2}$$

$$x = \frac{37}{2} \pm \frac{\sqrt{726}}{12}$$

$$x_1 = 3,08 + 2,24$$

$$2,17$$

$$x_1 = 5,32 \quad x_2 = 0,84 \quad 4$$

$$\checkmark 6. 1) 2x+2y=13 \quad (x+1)(y+1)=13$$

$$2y = -2x + 13$$

$$(y+1) = \frac{13}{x+1}$$

$$\textcircled{1} y = \frac{-x+13}{2}$$

$$(x+1)$$

$$\textcircled{2} y = \frac{13}{x+1} - 1$$

$$\frac{-x+13}{2} = \frac{13}{x+1} - 1$$

$$\frac{-x+15}{2} = \frac{13}{x+1}$$

$$\frac{-x(x+1)+15(x+1)}{2} = 13$$

$$\frac{-x^2-x+15x+15}{2} - 13 = 0$$

$$\frac{-x^2+13x-11}{2} = 0$$

$$2x^2 - 13x + 11 = 0 \quad -2 \cdot x^{-11} = 22$$

$$2x^2 - 11x - 2x + 11 = 0 \quad -2 + \frac{11}{-2} = -13$$

$$x(x-11) - 1(2x-11)$$

$$(x-1)(x-11) = 0$$

$$x_1 = 1 \quad x_2 = \frac{11}{2}$$

$$y_1 = \frac{11}{2} \quad y_2 = 1$$

$$\left(\frac{11}{2}, \frac{11}{2}\right), \left(\frac{11}{2}, 1\right)$$



$$6. \quad g) \quad y-5 = -x(x-3) \quad -x(x-3)+5 = \frac{12x+4}{5}$$

$$\textcircled{1} \quad y = -x(x-3)+5$$

$$-5x(x-3)+25 = 12x+20$$

$$-5x^2+15x+25 = 12x+20$$

$$-5x^2+3x+5 = 0$$

$$\frac{3x}{5} = \frac{y}{4} - 1$$

$$\frac{3x+1}{5} = \frac{y}{4}$$

$$5x^2 - 3x - 5 = 0$$

$$-x_1 = -25$$

$$5(x^2 - \frac{3x}{5}) - 5 = 0$$

$$-+- = -3$$

$$\textcircled{2} \quad \frac{12x+4}{5} = y$$

$$5(x^2 - \frac{3x}{5} + 9 - 9) - 5 = 0$$

$$5\left(\frac{x-3}{10}\right)^2 - \frac{9}{20} - 5 = 0$$

$$5\left(\frac{x-3}{10}\right)^2 - \frac{109}{20} = 0$$

$$5\left(\frac{x-3}{10}\right)^2 = \frac{109}{20}$$

$$\left(\frac{x-3}{10}\right)^2 = 1,09$$

$$\frac{x-3}{10} = \pm 1,04$$

$$x = 0,3 \pm 1,04$$

$$x_1 = 1,34$$

$$x_2 = 0,74$$

$$y_1 = 7,216$$

$$y_2 = 5,776$$

$$\checkmark (1,34; 7,216)$$

$$(0,74; 5,776)$$

$$6. h) \quad 30x - 9y + 22 = 0 \quad (2) \quad y = -2x^2 - \frac{2}{3}x + \frac{4}{9}$$

$$30x + 22 = 9y$$

$$(1) \quad y = \frac{30x + 22}{9}$$

$$(1) \rightarrow (2) \quad \frac{30x + 22}{9} = -2x^2 - \frac{2}{3}x + \frac{4}{9}$$

$$30x + 22 = -18x^2 - 6x + 4$$

$$0 = -18x^2 - 36x - 18$$

$$0 = x^2 + 2x + 1 \quad \frac{1}{1} + \frac{1}{1} = 2$$

$$0 = (x+1)(x+1) \quad \frac{1}{1}x \frac{1}{1} = 1$$

$$x = -1$$

$$y = \frac{-8}{9} \quad (-1; \frac{-8}{9})$$

$$i) \quad \frac{y-1}{x-1} = 3 \quad (2) \quad 3xy = 1 + 2y$$

$$(1) \rightarrow (2)$$

$$y-1 = 3x-3$$

$$3x(3x-2) = 1 + 2(3x-2)$$

$$(1) \quad y = 3x-2$$

$$9x^2 - 6x = 1 + 6x - 4$$

$$9x^2 - 12x + 3 = 0$$

$$x \neq 1$$

$$3x^2 - 4x + 1 = 0$$

$$\frac{-1}{1} + \frac{-3}{1} = -4$$

$$3x^2 - 3x - x + 1 = 0$$

$$-\frac{1}{1}x \frac{-3}{1} = 3$$

$$3x(x-1) - 1(x-1) = 0$$

$$(3x-1)(x-1) = 0$$

$$x = \frac{1}{3} \quad x = 1$$

$$y_1 = -1 \quad y_2 = 1$$

$$\checkmark \left(\frac{1}{3}, -1\right) \quad \left(1, 1\right)$$

p. 237

7. a)  $\rho = 12,4 \text{ u}$   $2y + 2x = 12,4$   
 $\text{diag} = 8 \text{ u}$   $x^2 + y^2 = 5^2$

b)  $2y = 12,4 - 2x$   $x^2 + y^2 = 25$   
 $y = 6,2 - x$   $x^2 + (6,2 - x)^2 = 25$   
 $x^2 + 38,44 - 12,4x + x^2 = 25$

$2x^2 - 12,4x + 13,44 = 0$

$x^2 - 6,2x + 6,72 = 0$

$(x^2 - 6,2x + 9,61 - 9,61) + 6,72 = 0$

$(x - 3,1)^2 - 2,89 = 0$

$(x - 3,1)^2 = 2,89$

$x - 3,1 = \pm 1,7$

$x = 3,1 \pm 1,7$

$x_1 = 4,8$   $x_2 = 1,4$

$y_1 = 1,4$   $y_2 = 4,8$

Les dimensions  
possibles sont  $4,8 \times 1,4$   
unités.

8. a)  $y = x^2 + 2x + 1$   
 $-(y = x + 1)$

$0 = x^2 + x$

$0 = x(x + 1)$

$x_1 = 0$   $x_2 = -1$

$y_1 = 1$   $y_2 = 0$

$(0, 1)$   $(-1, 0)$

b)  $(x-1) = (x-1)(x+1)$

$x-1 = x^2 - x + x - 1$

$0 = x^2 - x$

$0 = x(x-1)$

$x_1 = 0$   $x_2 = 1$

$y_1 = -1$   $y_2 = 0$

$(0, -1)$   $(1, 0)$

$x-1=y$

c) ①  $x - y = 1$

②  $\rightarrow$  ①  $\downarrow$

$x - 5 + x = 1$

$2x = 6$

$x = 3$

$y = 2$

$(3, 2)$

$x^2 - y^2 = 5$

$(x-y)(x+y) = 5 \rightarrow$

(1)  $(x+y) = 5 \rightarrow$  ①  $\rightarrow$  ②

$x + y = 5$

②  $y = 5 - x$

$$q_2 \quad S(5, 2)$$

$$P(3, 0)$$

$$m = -2$$

$$y = a(x-h)^2 + p$$

$$y = a(x-5)^2 + 2$$

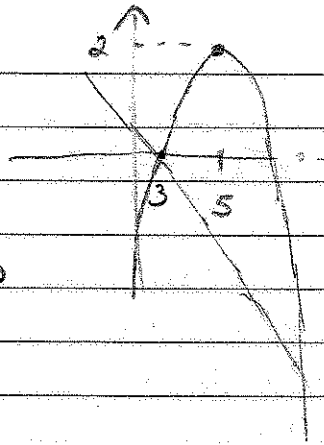
$$0 = a(3-5)^2 + 2$$

$$0 = a(4) + 2$$

$$-2 = 4a$$

$$a = -\frac{1}{2}$$

$$\textcircled{2} \quad y = -\frac{1}{2}(x-5)^2 + 2$$



$$y = mx + b$$

$$y = -2x + b$$

$$0 = -2(3) + b$$

$$b = 6$$

$$\textcircled{1} \quad y = -2x + 6$$

$$\textcircled{1} \rightarrow \textcircled{2} \quad -2x + 6 = -\frac{1}{2}(x-5)^2 + 2$$

$$-4x + 12 = -(x-5)^2 + 4$$

$$0 = -(x-5)(x-5) + 4x - 12 + 4$$

$$0 = -(x^2 - 10x + 25) + 4x - 8$$

$$0 = -x^2 + 10x - 25 + 4x - 8$$

$$0 = -x^2 + 14x - 33$$

$$0 = x^2 - 14x + 33 \quad \begin{matrix} -3 \\ +11 \end{matrix} = -14$$

$$0 = (x-3)(x-11)$$

$$-3x - 11 = 33$$

$$x = 3 \quad x = 11$$

$$(3, 0)$$

∨

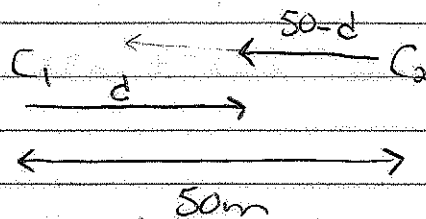
$$y = -16$$

$$(11, -16)$$

P. 235 Vision

b.  $d_1(t) = 1,5t^2$

$d_2(t) = 10t$



①  $d = 1,5t^2$

②  $50 - d = 10t$

$30 + \frac{-10}{-1} = 20$

① → ②

$50 - 1,5t^2 = 10t$

$30x - 10 = -300$

$0 = 1,5t^2 + 10t - 50$

$0 = 3t^2 + 20t - 100$

$0 = 3t^2 + 30t - 10t - 100$

$0 = 3t(t+10) - 10(t+10)$

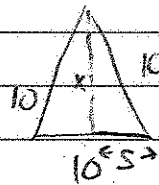
$0 = (3t-10)(t+10)$

$t_1 = \frac{10}{3}$      $t_2 = -10 \rightarrow \text{Imp.}$

$d = 16,6$

le premier cycliste aura parcouru 16,6 m.

12.  $P = 30 \text{ cm}$   
 $A = 43,3 \text{ cm}^2$



$10^2 = 5^2 + x^2$

$100 - 25 = x^2$

$x = 8,66$

$A = \frac{10 \times 8,66}{2} = 43,3$

a)  $2x + 2y = 30$  ①

$xy = 43,3$  ②

$0 = x^2 - 15x + 56,25 - 56,25 + 43,3$

$0 = (x - 7,5)^2 - 12,95$

$12,95 = (x - 7,5)^2$

$\pm 3,599 = x - 7,5$

$x_1 = 11,099$      $x_2 = 3,901$

$y_1 = 3,901$      $y_2 = 11,099$

b) ①  $2y = 30 - 2x$

$y = 15 - x$

① → ②  $x(15 - x) = 43,3$

$15x - x^2 = 43,3$

$0 = x^2 - 15x + 43,3$

les dimensions sont 3,901 cm x 11,099 cm

14.

a)  $A_{\text{totale}} = 2\pi x^2 + 2\pi x \cdot 15 = 2\pi x^2 + 30\pi x$   
Cylindre

$$\begin{aligned} \text{Arie totale} &= 2 \cdot 20 \cdot 20 + 2 \cdot 20 \cdot x + 2 \cdot 20 \cdot x \\ \text{boxe} &= 800 + 80x \end{aligned}$$

b)  $800 + 80x = 2\pi x^2 + 30\pi x$

$$0 = 2\pi x^2 - 80x + 30\pi x - 800$$

$$0 = 2\pi x^2 + 14,25x - 800$$

$$0 = x^2 + 2,27x - 127,32$$

$$0 = (x^2 + 2,27x + 1,29 - 1,29) - 127,32$$

$$0 = (x + 1,135)^2 - 128,61$$

$$128,61 = (x + 1,135)^2$$

$$\pm 11,34 = x + 1,135$$

$$x = -1,135 \pm 11,34$$

$$x_1 = -12,475$$

$$x_2 = 10,2$$

$$y_1 = 1798 \text{ cm}^2$$

$$x = 10,2 \text{ cm}$$

$$16. \textcircled{1} x - y = 3 \quad x^3 - y^3 = ?$$

$$\textcircled{2} x^2 - y^2 = 6 \rightarrow (x - y)(x + y) = 6$$

$$\rightarrow 3(x + y) = 6$$

$$3x + 3y = 6$$

$$3y = 6 - 3x$$

$$y = 2 - x \rightarrow \textcircled{1} \quad x - 2 + x = 3 \quad y = 2 - 5$$

$$2x - 2 = 3$$

$$2x = 5$$

$$x = \frac{5}{2}$$

$$y = -\frac{1}{2}$$

$$x^3 - y^3 = \left(\frac{5}{2}\right)^3 - \left(-\frac{1}{2}\right)^3$$

$$= 15,625 + 0,125$$

$$= \boxed{15,75}$$

$$19. \quad 3x - y = x^2 - 2y = 8$$

les nombres possibles

sont 2 et -2 plus

4 et 4.

$$3x - y = 8$$

$$x^2 - 2(3x - 8) = 8$$

$$y = 3x - 8$$

$$x^2 - 6x + 16 = 8$$

$$x^2 - 6x + 8 = 0$$

$$-2 + -4 = -6$$

$$(x - 2)(x - 4) = 0$$

$$-2 \times 4 = 8$$

$$x_1 = 2 \text{ ou } x_2 = 4$$

$$y_1 = -2 \quad y_2 = 4$$

$$\rightarrow \text{et } 2$$

$$\rightarrow \text{et } -2$$

$$-2$$

$$-2$$

21. a)  $y = 2x - 1$        $x^2 = 2x - 1$

$y = x^2$        $0 = x^2 - 2x + 1$        $-1 \pm 1 = -2$

$0 = (x-1)(x-1)$        $-1 \pm 1 = 1$

$x = 1$

$y = 1$

$(1, 1)$

✓



Vision p. 500

#2 c)  $(x-h)^2 + (y-k)^2 = r^2$  e)  $(0,10)$

$(x-20)^2 + (y+10)^2 = 13^2$

$(x-20)^2 + (y+10)^2 = 169$

$x^2 + (y-10)^2 = r^2$

$(x-16)^2 + (y-17,5)^2 = r^2$

$r = \sqrt{(16-0)^2 + (17,5-10)^2}$

$r = 18,5$

$r^2 = 342,25$

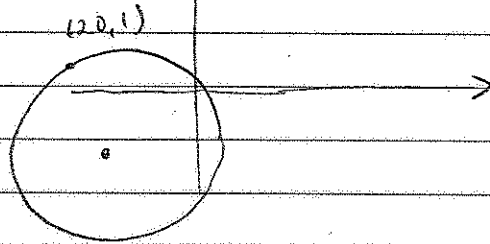
$\checkmark x^2 + (y-10)^2 = 342,25$

6. e)  $(x_1, y_1) = (-8, -4)$   $P(x_2, y_2) = (-20, 1)$

$r^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$

$r^2 = (-20 + 8)^2 + (1 + 4)^2$

$r^2 = 169$



$\checkmark (x+8)^2 + (y+4)^2 = 169$

Omnimath II

p. 481 #4, 9, 13, 16, 20, 22, 26, 30, 44, 49, 50

✓ 4.  $x^2 + y^2 = 3$       9.  $(x+2)^2 + (x-3)^2 = 64$

13.  $(x+4)^2 + y^2 = 16 \times 2$       ✓ 16.  $C(0,0)$        $r^2 = (-4)^2 + (2)^2$   
 ✓  $(x+4)^2 + y^2 = 32$        $P(-4,2)$        $r^2 = 20$   
 $x^2 + y^2 = 20$

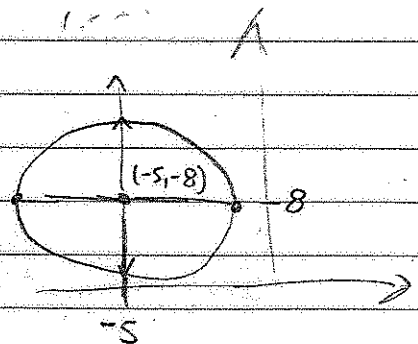
20  $(0,0)$        $r^2 = 5^2 + 0^2$        $x^2 + y^2 = 25$   
 ✓  $(0,5)$        $r^2 = 25$

22  $\begin{matrix} x_1 & y_1 \\ (-1, -2) \end{matrix}$        $r^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$   
 $P(3, 2)$        $r^2 = (3 - (-1))^2 + (2 - (-1))^2$   
 $\begin{matrix} x_2 & y_2 \\ 3 & 2 \end{matrix}$        $r^2 = (4)^2 + (3)^2$   
 $r^2 = 16 + 9 = 25$

✓  $25 = (x+1)^2 + (y+2)^2$

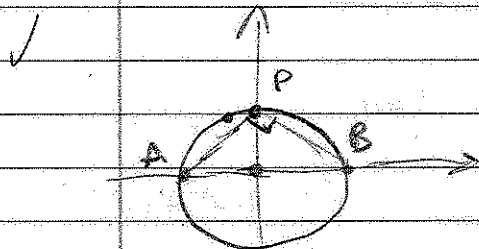
✓ 26  $\begin{matrix} x_1 & y_1 \\ (11, -9) \end{matrix}$        $r^2 = (x-11)^2 + (y+9)^2$        $625 = (x-11)^2 + (y+9)^2$   
 $(18, 15)$        $r^2 = (18-11)^2 + (15+9)^2$   
 $\begin{matrix} x_2 & y_2 \\ 18 & 15 \end{matrix}$        $r^2 = 49 + 576$   
 $r^2 = 625$

30.  $(13, 4)$  ✓ 44.  $(x+5)^2 + (y-8)^2 = 121$   
 ✓  $r=5$        $C(-5, 8)$   
 $r = \sqrt{121} = 11$   
 $-8+11=3 \rightarrow (-5, 3)$   
 $-8-11=-19 \rightarrow (-5, -19)$



49.  $x^2 + y^2 = 169 \rightarrow r = 13$

a)  $(13, 0)$  et  $(-13, 0)$



b)  $P(-5, 12) \rightarrow x^2 + y^2 = 169$   
 $(-5)^2 + (12)^2 = 169$   
 $25 + 144 = 169$   
 $169 = 169 \checkmark$

c)  $\angle APB = 90^\circ$  si  $m\overline{AP}^2 + m\overline{PB}^2 = m\overline{AB}^2 \rightarrow$  T. Pythagore  
 $(2G)^2$

$x_1, y_1$   
 $P(-5, 12)$   
 $x_2, y_2$   
 $A(13, 0)$   
 $d^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2$   
 $= (13 - (-5))^2 + (0 - 12)^2$   
 $= (18)^2 + (12)^2$   
 $d^2 = 468$

$x_1, y_1$   
 $P(-5, 12)$   
 $x_2, y_2$   
 $B(-13, 0)$   
 $d^2 = (-13 - (-5))^2 + (0 - 12)^2$   
 $d^2 = 64 + 144$   
 $d^2 = 208$

$468 + 208 = 2G^2$

$\checkmark 676 = 676$

50.  $x^2 + y^2 = 9$

a)  $\uparrow 2$  et  $\rightarrow 1$

b)  $\leftarrow 3$  et  $\downarrow 4$

c)  $\uparrow 1$

d)  $\leftarrow 2$

e)  $\uparrow k$  et  $\leftarrow h$

Vision

p 310 #12 et 13ab

	A/B	
12. x: # de vis	3	6
y: # de boulons	4,5	4
	180h	220h

$(0,20\$x + 0,15\$y) \rightarrow$  maximiser

$$\checkmark 3x + 4,5y \leq 180 \times 60$$

$$\checkmark 6x + 4y \leq 220 \times 60$$

$$\checkmark x \geq 0$$

$$\checkmark y \geq 0$$

$$\checkmark 13. x: \text{nombre d'ordi A} \quad 5x + 10y \leq 240$$

$$y: \text{nombre d'ordi B} \quad x \geq 0$$

$$y \geq 0$$

$$20x + 24y \leq 800$$

$$\checkmark a) \text{ maximiser } 40x + 60y$$

$$\checkmark b) \text{ minimiser } 20x + 24y$$

$$x \geq 0$$

$$y \geq 0$$

$$40x + 60y \geq 480$$

$$5x + 10y \leq 240$$