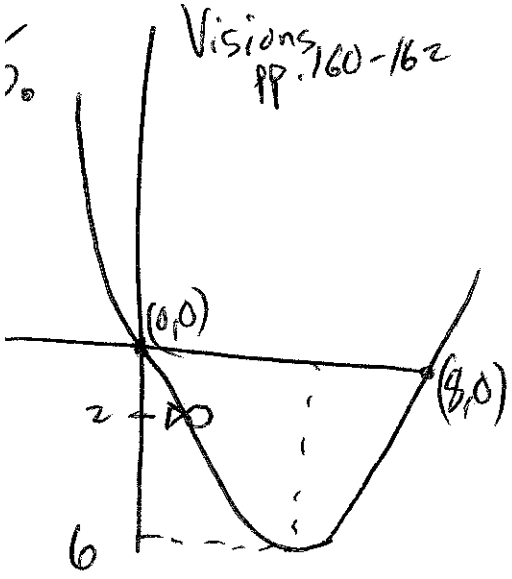
Corrigé

2.



Visions pp. 160-162

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

$h = \frac{0+8}{2}$ $\quad k = 2 \times 3$

$h = 4$ $\quad k = 6$

$y = a(x-4)^2 + 6$

$0 = a(0-4)^2 + 6$

$0 = 16a + 6$

$a = \frac{-6}{16}$

$a = -\frac{3}{8}$

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

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

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

$\pm\sqrt{\frac{32}{3}} = \sqrt{(x-4)^2}$

$\pm 3{,}3 = x - 4$

$4 \pm 3{,}3 = x$

$x = 7{,}3$ ~~$x = 0{,}7$~~ $\quad \boxed{x = 0{,}7\ m}$

après le sommet

6. a) $(h,k) = (4,5)$

$(x,y) = (0,0)$

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

$0 = a(0-4)^2 + 5$

$0 = 16a + 5$

$a = -\frac{5}{16}$

Parcours B

$\boxed{y = -\frac{5}{16}(x-4)^2 + 5}$

$y = -\frac{5}{16}(x^2 - 8x + 16) + 5$

Parcours C

$\boxed{y = -\frac{5}{16}x^2 - \frac{5}{2}x}$

c) $(h,k) = (-3,-2)$

$(x,y) = (-7,-10)$

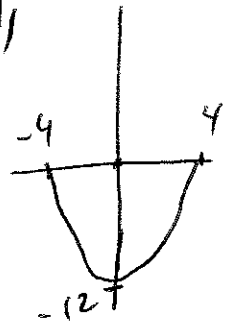
$-10 = a(-7--3)^2 + -2$

$-8 = 16a$

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

$y = -\frac{1}{2}(x+3)^2 - 2$

d)



$h = \frac{-4+4}{2}$

$h = 0$

$k = -12$

$(x,y) = (4,0)$

$y = a(x-0)^2 - 12$

$0 = a(4)^2 - 12$

$0 = 16a - 12$

$\frac{+12}{16} = \frac{16a}{16}$

$\boxed{a = \frac{3}{4}}$

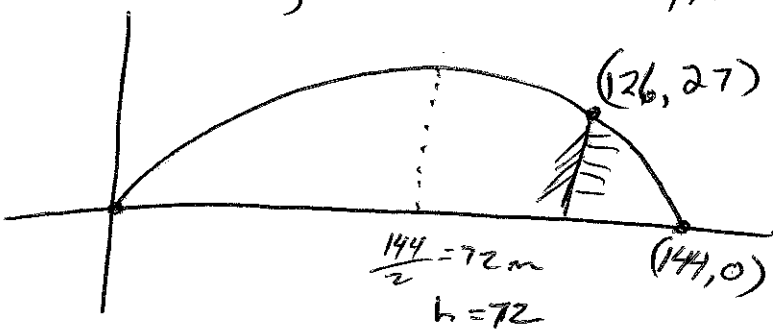
$y = \frac{3}{4}x^2 - 12$

8.

160 verges $\times \frac{0,9\text{m}}{\text{verge}} = 144\text{m}$

20 verges = 18m

144 − 18 =



a) $y = \frac{-1}{84}(x-72)^2 + \frac{432}{7}$

b) $\frac{432}{7} = 61,7\text{m}$

$y = a(x-72)^2 + K$

$27 = a(126-72)^2 + K$

$27 = 2916a + K$

$0 = a(144-72)^2 + K$

$0 = 5184a + K$

$-27 = -2916a - K$

$-27 = 2268a$

$\frac{-1}{84} = a$

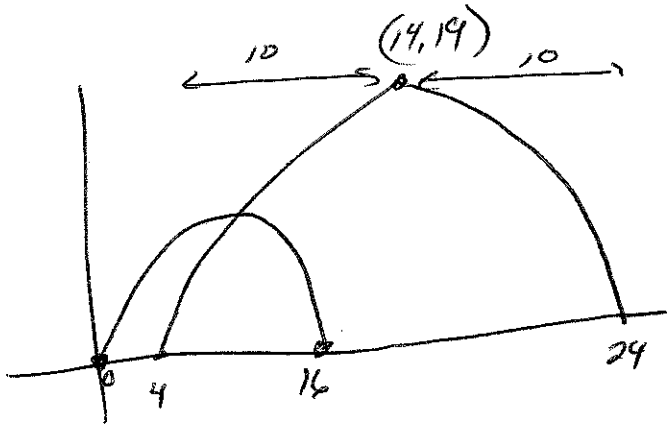
$K = -5184\left(\frac{-1}{84}\right)$

$K = \frac{5184 \div 12}{84 \div 12}$

$K = \frac{432}{7}$

9.

a)



24 − 16 = 8 m

b) ORANGE: $(h,k) = (14, 19)$

$(x,y) = (4, 0)$

$0 = a(4-14)^2 + 19$

$-19 = 100a$

$a = \frac{-19}{100}$

$y = \frac{-19}{100}(x-14)^2 + 19$

VERTE: $h = 8$ → pour k.

On REMPLACE dans

$y = \frac{-19}{100}(8-14)^2 + 19$

$y = -6,84 + 19$

$y = 12,16$

$K = 12.16$

$y = -0,19(x-8)^2 + 12,16$

$y = a(x-8)^2 + 12,16$

$0 = a(0-8)^2 + 12.16$

$-12.16 = 64a$

$a = -0,19$

14. b) $h(t) = -0,8t^2 + 8t$

$0 = -0,8t^2 + 8t$

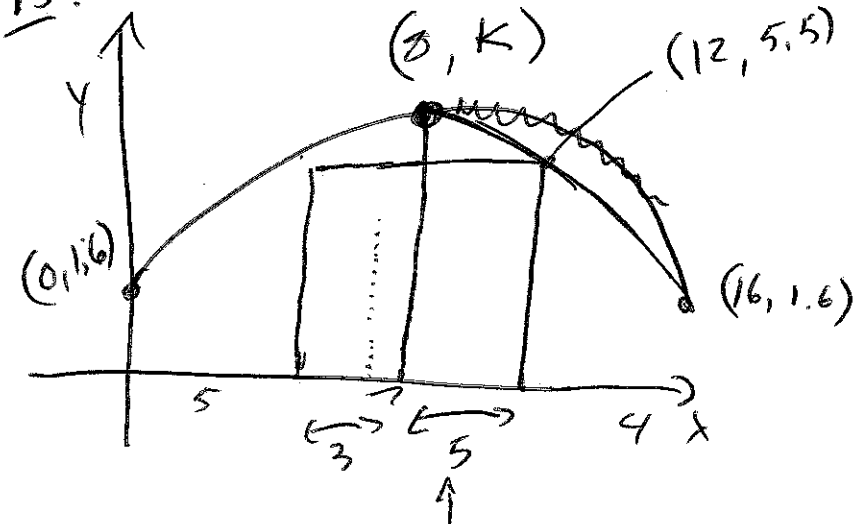
$0 = t(-0,8t + 8)$

$t = 0$ s ou $t = \frac{-8}{-0,8}$

$t = 10$ s

Ils représentent les moments où la balle était au sol.

15.



On doit éviter de justesse à droite (principe symétrie)

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

$5,5 = a(12-8) + K$

$5.5 = 16a + K$

$1.6 = a(0-8)^2 + K$

$1.6 = 64a + K$

$-5,5 = -76a - K$

$\frac{-3,9}{48} = \frac{48a}{48}$

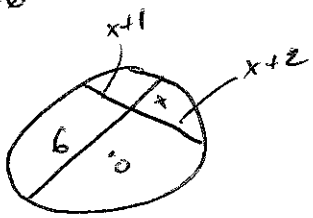
$a = -0,08125$ (ou $\frac{-13}{160}$)

$K = 1,6 - 64(-0,08125)$

$\boxed{K = 6,8}$

p. 526

4b).



$6(x) = (x+1)(x+2)$ (2 cordes)

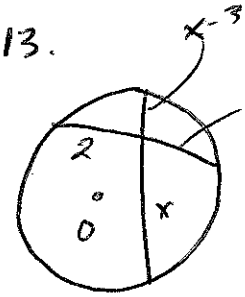
$6x = x^2 + 3x + 2$

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

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

$x = 1$ ou $x = 2$

13.



$x(x-3) = 2(x-2)$ 2 cord

$x^2 - 3x = 2x - 4$

$x^2 - 5x + 4 = 0$

$(x-1)(x-4) = 0$

~~$x = 1$~~ trop petit

$x = 4$

4 cm