Harjoittele s. 169

79 Leikkaavat suorat

850

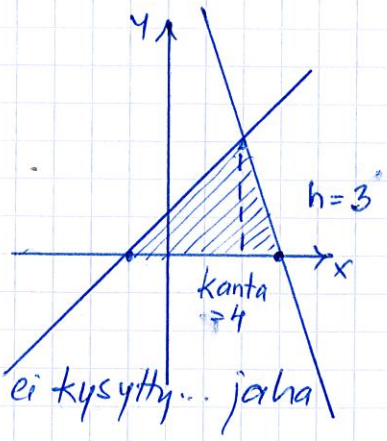
a) Luetaan kuvaajalta (2,3)

b) t-suora leikkaa x-akselin (−1,0)

s-suora —"— —"— (3,0)

c) t-suora —"— y-akselin (1,0) ... ei kysytty... jaha

$A = \frac{\text{kanta} \cdot \text{korkeus}}{2} = \frac{4 \cdot 3}{2} = \frac{12}{2} = 6$ ruuta



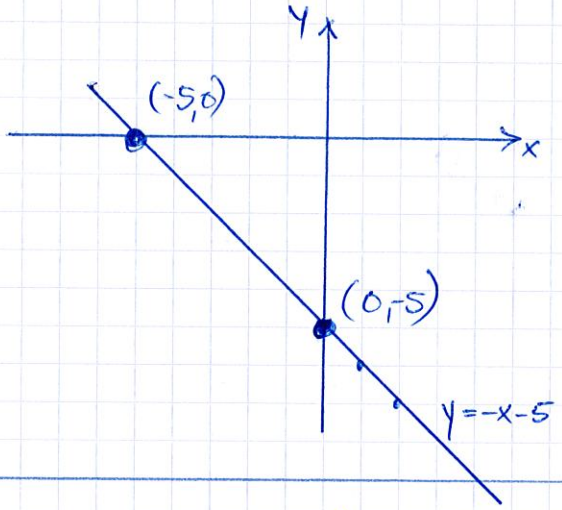
851

$y = -x - 5$

x	$y = -x - 5$	(x,y)
0	$-0-5=-5$	(0,−5)
1	$-1-5=-6$	(1,−6)
2	$-2-5=-7$	(2,−7)

a) leikkaa x-akselin (−5,0)

b) leikkaa y-akselin (0,−5)



852

$y = 2x - 2$

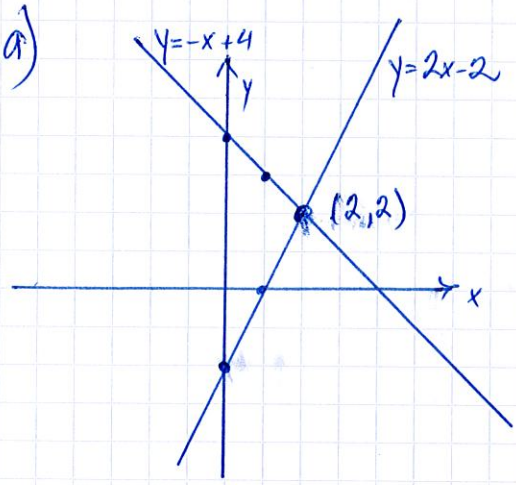
x	$y = 2x - 2$	(x,y)
0	$2 \cdot 0 - 2 = -2$	(0,−2)
1	$2 \cdot 1 - 2 = 0$	(1,0)
2	$2 \cdot 2 - 2 = 2$	(2,2)

$y = -x + 4$

x	$y = -x + 4$	(x,y)
0	$-0+4=4$	(0,4)
1	$-1+4=3$	(1,3)
2	$-2+4=2$	(2,2)

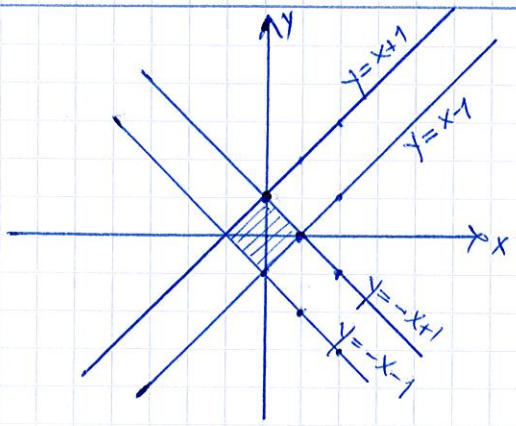
b) leikkauspiste (2,2)

a)



853

$y = x + 1$	0	$0+1=1$	(0,1)
	1	$1+1=2$	(1,2)
	2	$2+1=3$	(2,3)
$y = x - 1$	0	$0-1=-1$	(0,−1)
	1	$1-1=0$	(1,0)
	2	$2-1=1$	(2,1)
$y = -x + 1$	0	$-0+1=1$	(0,1)
	1	$-1+1=0$	(1,0)
	2	$-2+1=-1$	(2,−1)
$y = -x - 1$	0	$-0-1=-1$	(0,−1)
	1	$-1-1=-2$	(1,−2)
	2	$-2-1=-3$	(2,−3)



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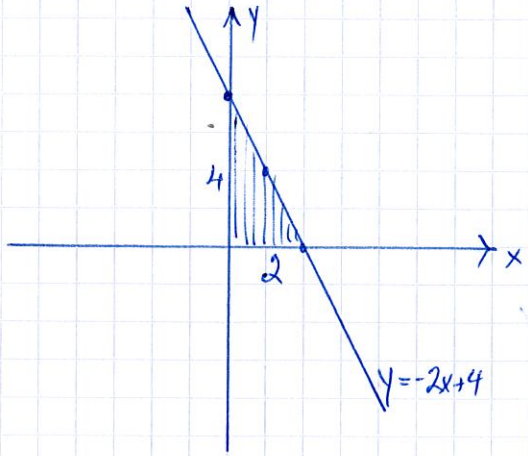
79 Leikkaavat suorat

854 a) $y = -2x + 4$

x	$y = -2x+4$	(x,y)
0	$-2\cdot 0+4=4$	(0,4)
1	$-2\cdot 1+4=2$	(1,2)
2	$-2\cdot 2+4=0$	(2,0)



b) Pinta-ala $= \frac{\text{kanta} \cdot \text{korkeus}}{2}$

$= \frac{2\cdot 4}{2}$

$= \frac{8}{2}$

$= 4$ ruutua

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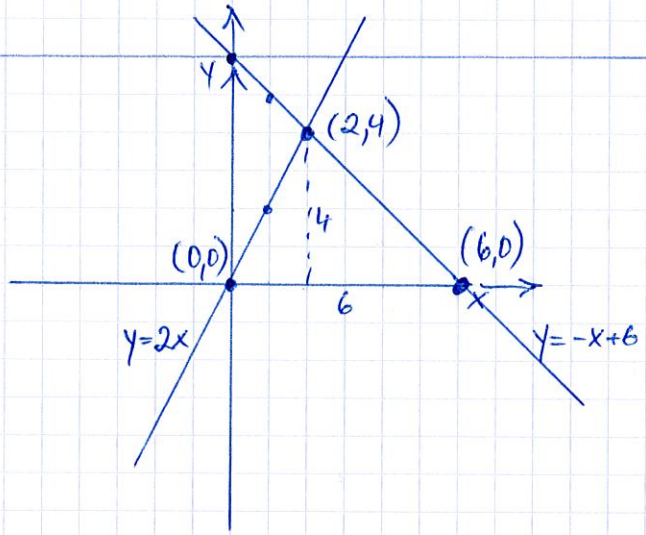
855 a) $y = 2x$

x	$y=2x$	(x,y)
0	$2\cdot 0=0$	(0,0)
1	$2\cdot 1=2$	(1,2)
2	$2\cdot 2=4$	(2,4)

$y = -x + 6$

x	$y=-x+6$	(x,y)
0	$-0+6=6$	(0,6)
1	$-1+6=5$	(1,5)
2	$-2+6=4$	(2,4)



b) Kolmion kärkipisteet (0,0), (2,4) ja (6,0

c) $A = \frac{b\cdot h}{2} = \frac{6\cdot 4}{2} = \frac{24}{2} = 12$ ruutua

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Sovella s. 169

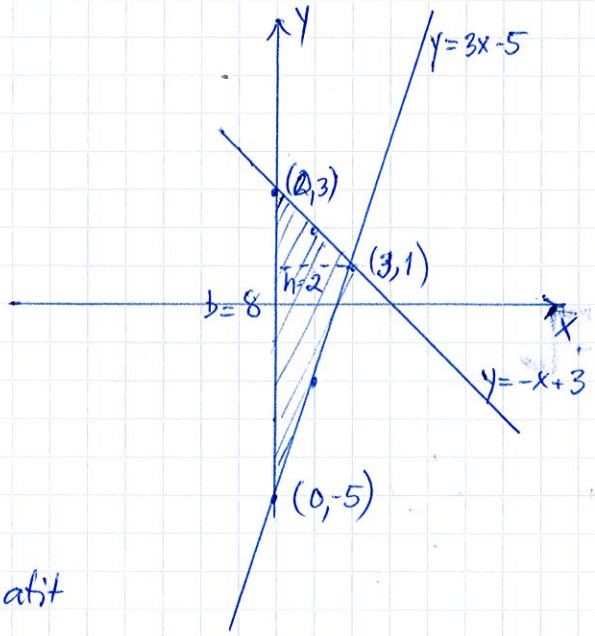
79 Leikkaavat suorat

856 a) $y = 3x - 5$

x	$y = 3x - 5$	(x,y)
0	$3 \cdot 0 - 5 = -5$	(0,-5)
1	$3 \cdot 1 - 5 = -2$	(1,-2)
2	$3 \cdot 2 - 5 = 1$	(2,1)

$y = -x + 3$

x	$y = -x + 3$	(x,y)
0	$-0 + 3 = 3$	(0,3)
1	$-1 + 3 = 2$	(1,2)
2	$-2 + 3 = 1$	(2,1)



b) Kolmion kärkipisteiden koordinaatit (0,3), (3,1) ja (0,-5)

c) $A = \frac{b \cdot h}{2} = \frac{8 \cdot 2}{2} = \frac{16}{2} = 8$ ruutua

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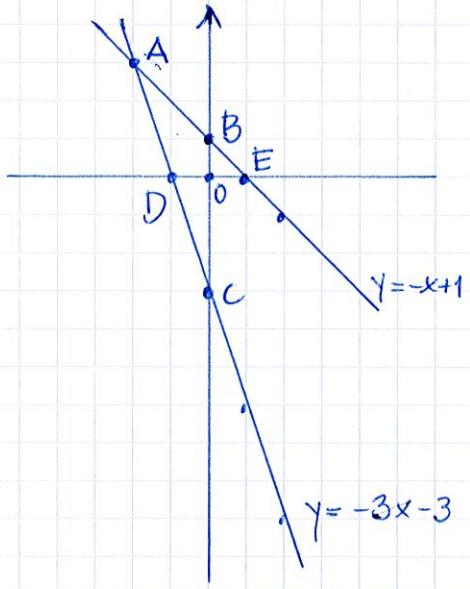
857 a) $y = -x + 1$

x	$-x + 1$	(x,y)
0	$-0 + 1 = 1$	(0,1)
1	$-1 + 1 = 0$	(1,0)
2	$-2 + 1 = -1$	(2,-1)

$y = -3x - 3$

x	$-3x - 3$	(x,y)
0	$-3 \cdot 0 - 3 = -3$	(0,-3)
1	$-3 \cdot 1 - 3 = -6$	(1,-6)
2	$-3 \cdot 2 - 3 = -9$	(2,-9)



b) Origo O(0,0)
Leikkauspiste A(-2,3)
Leikkauspisteet y-akselin kanssa B(0,1) ja C(0,-3)
Leikkauspisteet x-akselin kanssa D(-1,0) ja E (1,0)

c) Kolmio ABC
Kolmio OBE
Kolmio OCD
Kolmio ADE

d) Nelikulmio ABOD
Nelikulmio AEOC

Sovella s.169

79 Leikkaavat suorat

858 Jokainen x-akselin ruutu vastaa 10 min

a) A lähti 16.10

b) A saavutti B:n 16.40

c) He olivat ajaneet 10 km

d) A ajanut 20 km klo 17.10

B -"- -"- klo 17.20

e) Keskinopeus = $\frac{\text{matka}}{\text{aika}}$

$$v = \frac{s}{t}$$

$$v_A = \frac{20\,\text{km}}{1\,\text{h}\ 10\,\text{min}} = \frac{20\,\text{km}}{1{,}17\,\text{h}} \approx 17\,\text{km/h} \approx 20\,\text{km/h}$$

$$v_B = \frac{20\,\text{km}}{1\,\text{h}\ 20\,\text{min}} = \frac{20\,\text{km}}{1{,}33\,\text{h}} \approx 15\,\text{km/h}$$

yhden merkitsevän n:n tarkkuus!