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05IPPI7F2033

Subject:..... No:.....

Date: . .

Question 6

GROUP 10 : mentor → Luqman Hakim

mentee → Saszahirah

Freeshila

a) Given funtion $f(x) = x^2 + 2x - 3$

i) $f(-2) = -2^2 + 2(-2) - 3$

$= 4 - 4 - 3$

$= 4 - 7$

$f(-2) = -3$ ✓

ii) $f(0) = 0^2 + 2(0) - 3$

$= 0 + 0 - 3$

$f(0) = -3$ ✓

iii) $f(1) = 1^2 + 2(1) - 3$

$= 1 + 2 - 3$

$= 3 - 3$

$f(1) = 0$ ✓

b) Draw a graft of $y = 2x$ ~~from~~ for $-2 \leq x \leq 2$

$y = 2x$, $-2 \leq x \leq 2$

$-2, -1, 0, 1, 2$

when $x = 2$, $y = 2(2) = 4$ $y = 4$ $(2, 4)$ ✓

When $x = -2$ $y = 2(-2) = -4$ $y = -4$ $(-2, -4)$ ✓

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c) Based on Figure 6 (c), calculate

i) The gradient of PQ

$$m = \frac{y^2 - y^1}{x^2 - x^1}$$

$$m = \frac{-5 - 3}{6 - 0}$$

$$m = \frac{-8}{6}$$ ✓

$$m = -1.3$$ ✓

ii) The equation of the straight line PQ

$y = mx + c$

$3 = -1.3\,(0) + c$

$3 = 0 + c$

$3 = c$

$c = 3$ ✓

$y = mx + c$

$y = -1.3x + 3$

iii) y= intercept of PQ

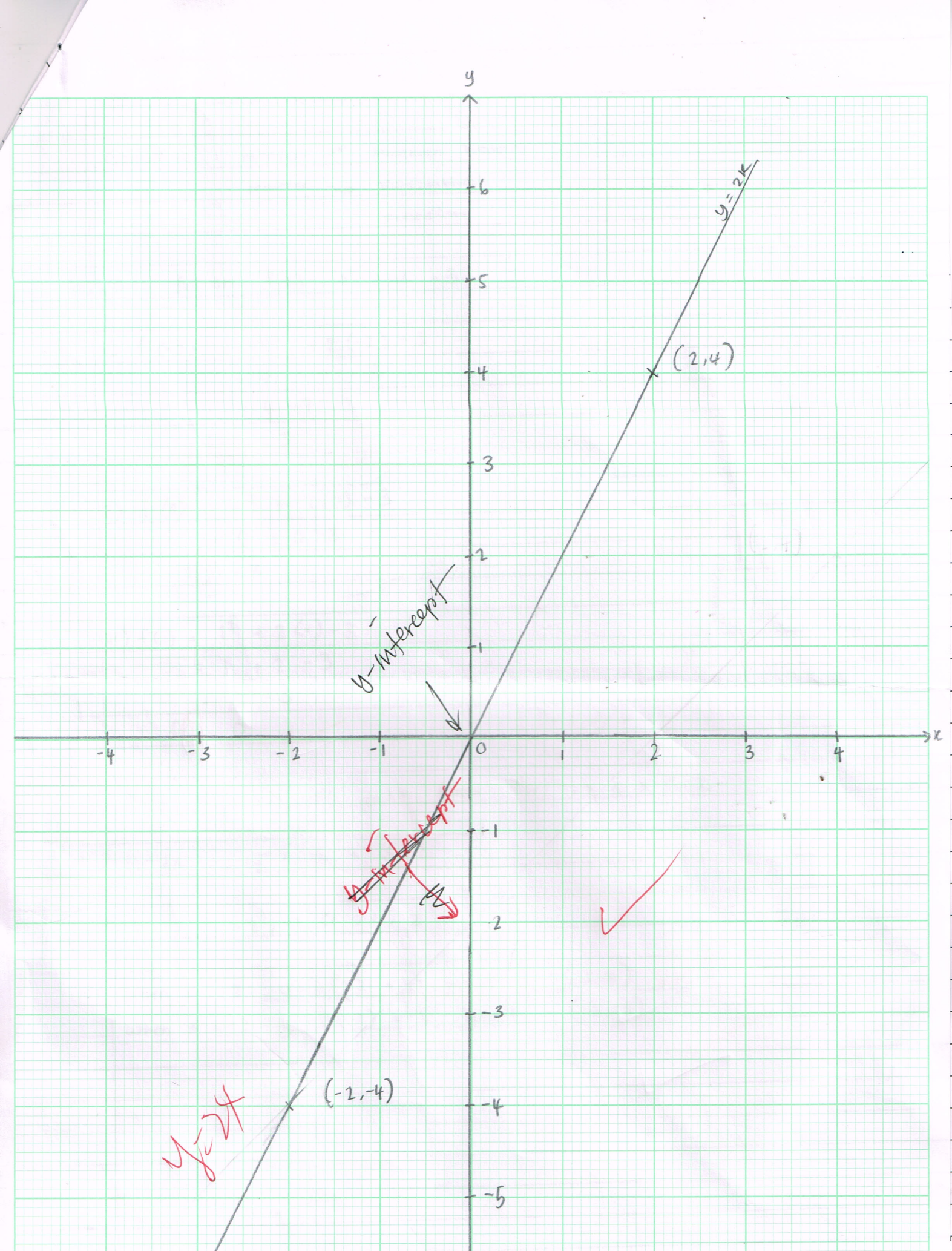
Refer to the graph,

y-intercept is −2

iv) The midpoint of PQ

$(0, 3)\ (6, -5)$

mid point $= \left(\frac{0+6}{2}, \frac{3+(-5)}{2}\right) = \left(\frac{6}{2}, \frac{-2}{2}\right)$


y
x
y = 2x
(2,4)
(-2,-4)
y-intercept
y-intercept
y = 2x
6
5
4
3
2
1
-1
-2
-3
-4
-5
-4
-3
-2
-1
0
1
2
3
4