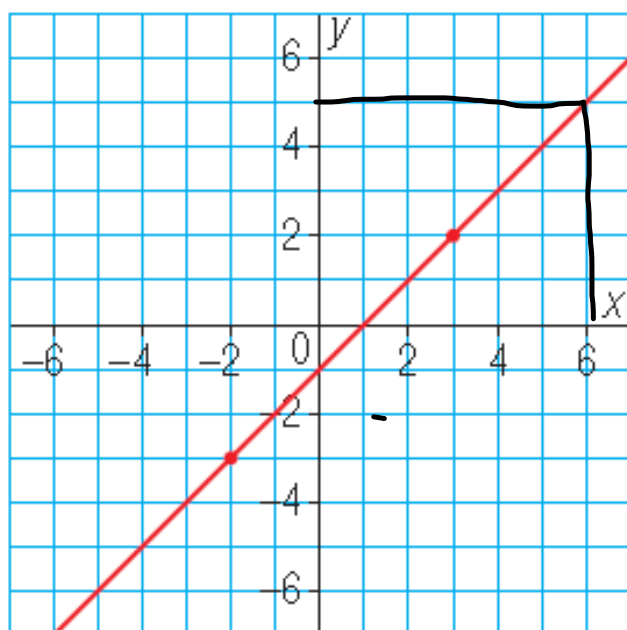# Last Night's Homework

Any questions?

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4. This graph represents a linear relation.
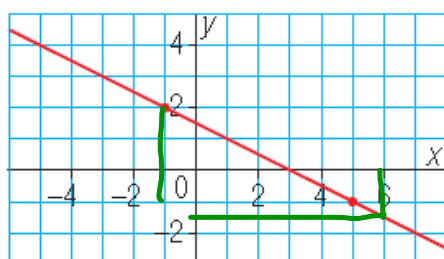

a) Determine each value of x for:

   i) $y = 5$ ii) $y = -1$ iii) $y = -2$
   x= 6   x= 0   x= -1

b) Determine each value of y for:

   i) $x = -4$ ii) $x = 2$ iii) $x = 5$
      y= -5   y= 1   y= 4

5. This graph represents a linear relation.

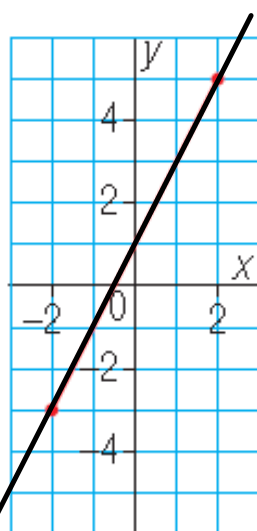a) Determine each value of x for:

i) $y = 3$ ii) $y = 1$ iii) $y = -2$ x= 7
   x= -3   x= 1

b) Determine each value of y for:

i) $x = -3$ ii) $x = 3$ iii) $x = 6$
   y= 3   y= 0   y= -1.5

7. This graph represents a linear relation.
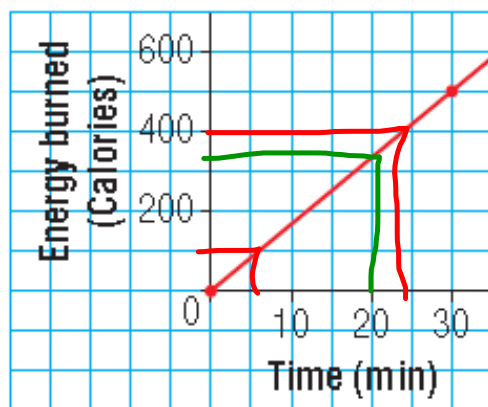
a) Determine each value of x for:

   i) $y = 6$ ii) $y = -4$ iii) $y = -7$
      x= 2.5   x= -2.5   x= -4

b) Determine each value of y for:

   i) $x = -5$ ii) $x = 3$ iii) $x = 5$
      y= -9   y= 7   y= 11

9. This graph shows the energy in Calories th
Kendall burns when he works out on an
elliptical machine.

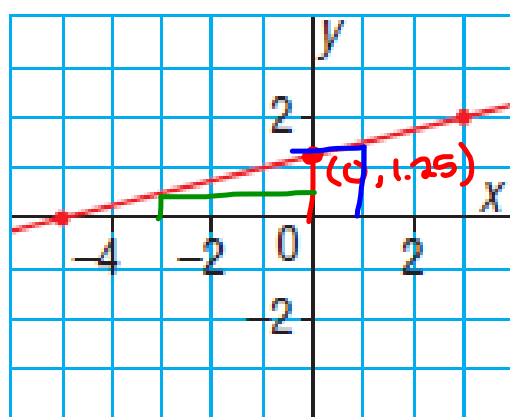**Energy Burned on an Elliptical Machine**

Use the graph.
a) Estimate how many Calories Kendall
burns in 20 min. About 305cal
b) Estimate for how long Kendall must
exercise to burn 400 Calories. 24 min
c) Estimate how many Calories Kendall
burns in 6 min. About 105 cal

10. This graph represents a linear relation.

Estimate the value of y when:
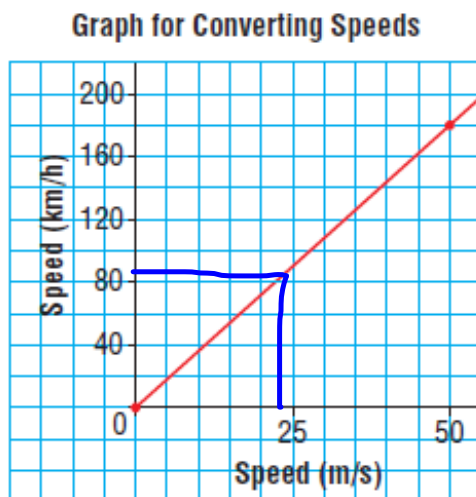
a) $x = -3$ b) $x = 0$ c) $x = 1$

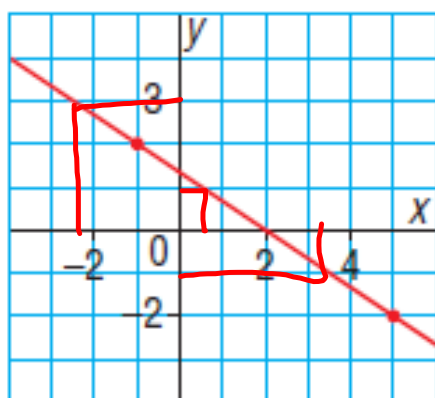Explain how you estimated.

y= 0.5   y= 1.25   y= 1.5

11. **Assessment Focus** This graph shows how a speed in metres per second relates to a speed in kilometres per hour.

Graph for Converting Speeds

a) Estimate the speed, in metres per second, of:
   i) a car that is travelling at 70 km/h **20m/s**
   ii) a train that is travelling at 110 km/h **30m/s**
b) Estimate the speed, in kilometres per hour, of:
   i) a racing car that is travelling at 60 m/s **220km/h**
   ii) a bicycle that is travelling at 8 m/s **30km/h**
c) For which of parts a and b did you use:
   i) interpolation? **part a i, ii**
   ii) extrapolation? **part b ii**
   Explain how you know.
d) Explain why your answers are estimates and not exact.

12. This graph represents a linear relation.

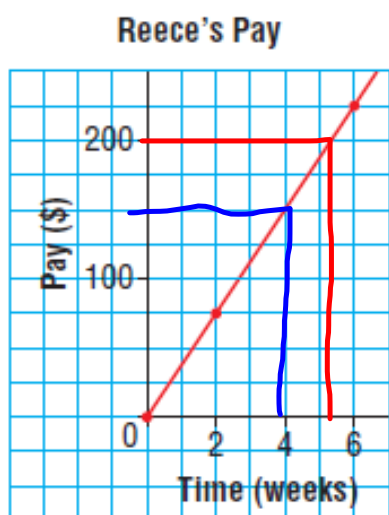Estimate the value of x when:

i) $y = 3$ x= -2.5

ii) $y = 1$ x= 0.5

iii) $y = -1$ x=3.5

Explain how you estimated.

13. Reece works for 5 h each week at a clothing
store. This graph shows how her pay relates
to the number of weeks she works.

Reece's Pay

a) Estimate Reece's earnings after 8 weeks. $300
b) Estimate how long it will take Reece to
   earn $400. What assumption did you   11 weeks
   make?
c) What conditions could change that
   would make this graph no longer valid?

   If the rate of pay
   changed then the
   graph would no longer
   be valid

14. This graph represents a linear relation.
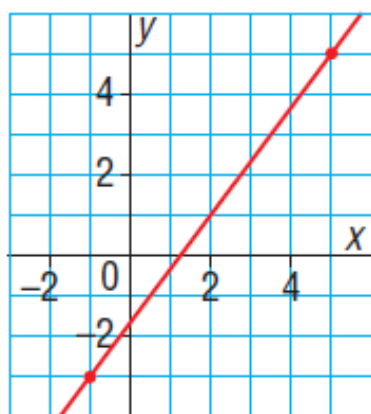
a) Estimate the value of y when:

    i) $x = -3$ ii) $x = -5$ iii) $x = 10$

    y = -5.5   y = -8.3   y = 11.6

b) Estimate the value of x when:

    i) $y = -5$ ii) $y = 8$ iii) $y = 10$

    x = -2.5   x = -7.25   x = -8.75

15. A local convenience store sells 3 different sizes of drinks. The price of each drink is listed below. The store owner plans to introduce 2 new sizes of drinks. She wants the prices and sizes to be related to the drinks she sells already.

Size (mL)	Price (¢)
500	79
750	89
1000	99

a) Graph the data.
b) What should the store owner charge for a $1.15
   1400-mL drink?
c) What should be the size of a drink that   150ml
   costs 65¢?