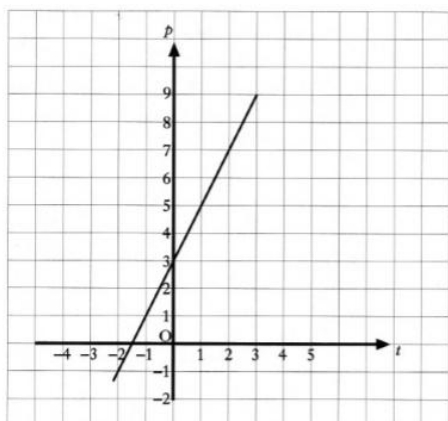**Q1.**   3 marks
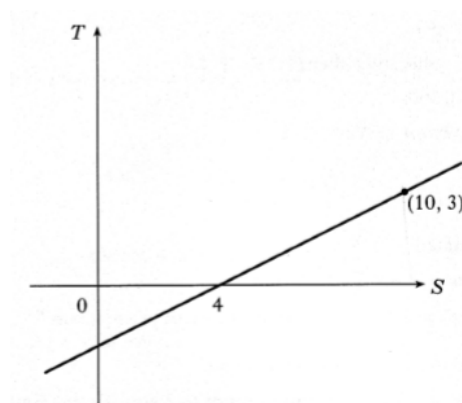
Find the equation of the
straight line in terms
of p and t.

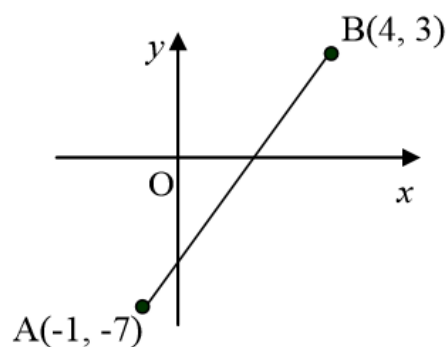**Q2.**   Find the equation of the given
straight line in terms of S and T.

4 marks

Q3.   In the diagram,   A is the point (-1, 7)
and B is the point (4, 3).

a)   Find the gradient of the line AB.

b)   AB cuts the y-axis at the point (0, -5).
Write down the equation of the line AB

c)   The point $(3k, k)$ lies on AB
Find the value of k.
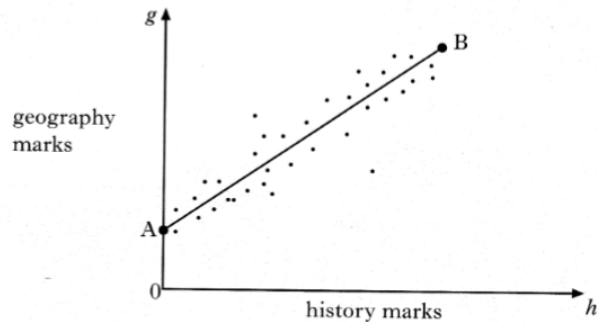
B(4, 3)

A(-1, -7)

4 marks

Total marks 22

Q4. The graph below shows the relationship between the history and geography marks of a class of students

A best fitting straight line, AB has been drawn.

Point A represents 0 marks for history and 12 marks for geography.

Point B represents 90 marks for history and 82 marks for geography.

Find the equation of the straight line AB in terms of h and g.

4 marks

Q5. When a patient's blood pressue (B.P.), is taken, two measurements are made.

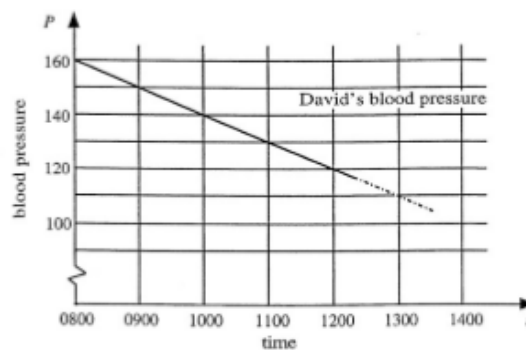For example, in **"160 over 70"** (or $\frac{160}{70}$),

$\Rightarrow$ the 160 is the reading when the heart is pumping.

$\Rightarrow$ the 70 is the reading when the heart is at rest.

David has a heart problem, and has his blood pressure taken every hour.

The first number of these two measurements is monitored very carefully and the nurse plots a graph, showing the changes from 8 am.

a) Find the gradient of the line shown above.

b) Write down the equation of the line in the form

$P = $ ....

c) It is known that if the blood pressure drops below 70, the patient will be in danger of losing consciousness.

If David's blood pressure continues to drop in the way indicated, when might he be expected to become unconscious.

7 marks

Total marks 22