

Int 1 Unit 3 Specimen NAB

- 1) Given $w = x + yz$, calculate w when $x = 11$, $y = 6$ and $z = 6$. 47
- 2) a) Multiply out the brackets $8(n - 6)$
- b) Simplify the expression $5(q + 4) + 3q$. a) $8n - 48$
b) $8q + 20$
- 3) Factorise $20y + 35$ $5(4y + 7)$
- 4) a) Solve the equation $t - 4 = 7$
- b) Solve the equation $7u = 28$ a) $t = 11$ b) $u = 4$
- 5) a) Solve the inequality $m + 11 > 22$
- b) Solve the inequality $4p > 28$ a) $m > 11$ b) $p > 7$
- 6) a) Complete the table below where $y = 3x - 3$
- b) Use the table of values to draw the straight line $y = 3x - 3$ on a grid.

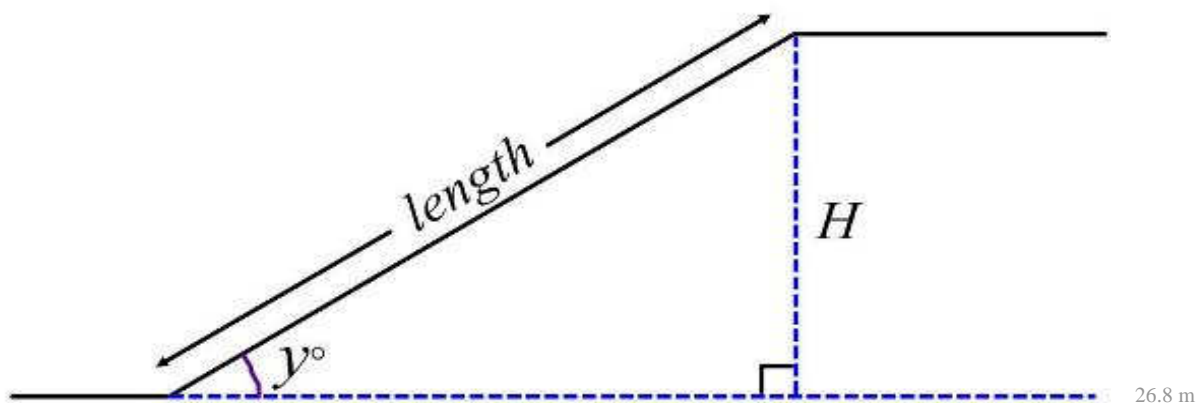
x	0	1	2	3
y				

a) -3, 0, 3 and 6

- 7) The diagram below shows a junior ski run.

The run's length is 220 metres long and slopes at an angle (y) of 7° .

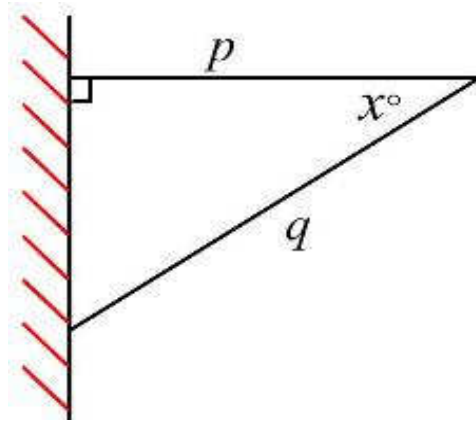
Calculate the difference in height (H metres), between the top and the bottom of the slope.



- 8) This bracket is used to support a wooden shelf.

If $p = 4.8$ m and $q = 6$ m

Calculate the size of the angle marked x° .



36.9

- 9) a) The speed of light is approximately 2.998×10^8 metres per second. Write this number out in full.
- b) The mass of a proton is 1.7×10^{-27} kg. Write this number out in full.
- 10) a) The distance from the Sun to Pluto is 3 670 000 000 miles. Write this number in standard form.
- b) The mass of an electron is 0.000 000 000 000 000 000 000 000 000 0091 kg . Write this number in standard form.
- 11) Large distances in space are measured in light years. One light year is 9.46×10^{12} km.

Calculate the number of kilometres in 5 light years in standard form.