

NAB 3 - (Practise)

Outcome 1 - Simple Algebraic Operations

- Given $t = a + bc$, calculate t when $a = 12$, $b = 2$ and $c = 5$.
- a Multiply out the brackets $3(g - 2)$.
b Simplify the expression $4(y + 3) + 3y$.
- Factorise $6k + 42$.
- a Solve the equation $x - 2 = 11$.
b Solve the equation $4p = 12$.
- a Solve the inequality $h + 4 > 6$.
b Solve the inequality $7d < 28$.

(2)

(1)

(2)

(2)

(1)

(1)

(1)

(1)

required to pass - 7/11

Outcome 2 - Graphical Relationships

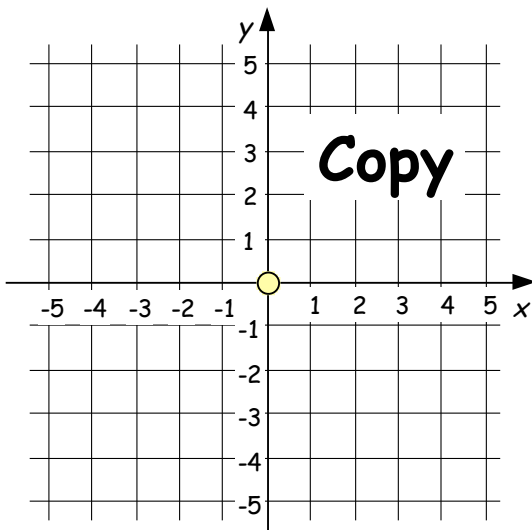
- a Complete the table below where :-

$$y = 3x - 1.$$

x	0	1	2	3
y				

(2)

- b Copy the grid shown below.



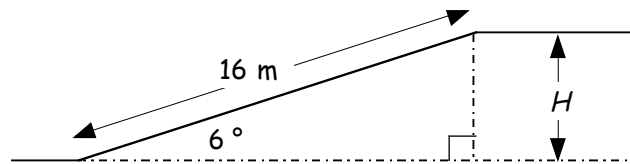
Use the table of values to draw the line $y = 3x - 1$ on your grid.

(2)

required to pass - 3/4

Outcome 3 - Trigonometry

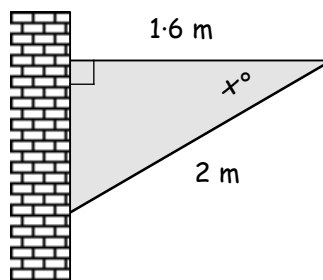
7. The diagram below shows a car ramp in a garage.



The run is **16 metres** long and slopes at an angle of 6° , as shown in the diagram.
Calculate the difference in height (H m), between the top and the bottom of the slope.

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

Calculate the size of the angle marked x° .



(4)

(3)

required to pass - 5/7

Outcome 4 - Standard Form

9. a The sun is 3.289×10^5 times the size of the Earth.

Write this number out in full.

(1)

b The diameter of a grain of sand is 1.2×10^{-3} millimetres.

Write this number out in full.

(1)

10. a A biscuit factory produced 124 000 000 biscuits last month.

Write this number in standard form.

(2)

b The thickness of a hair is found to be 0.000 023 mm.

Write this number in standard form.

(2)

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 11 light years in standard form.

(3)

required to pass - 6/9