

RELATIONSHIPS HOMEWORK 5

Non calculator:

Sketch the graph of $y = (x - 3)^2 + 1$.

On your sketch, show clearly the coordinates of the turning point and the point of intersection with the y -axis.

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Calculator

A function is defined as $f(x) = 3x + 2$.

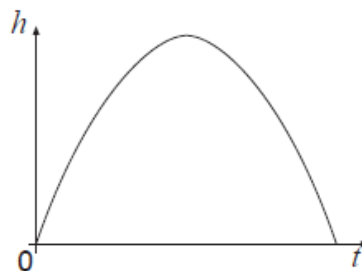
Given that $f(a) = 23$, calculate a .

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Challenge Question (Non-calculator):

The diagram below shows the path of a small rocket which is fired into the air. The height, h metres, of the rocket after t seconds is given by

$$h(t) = 16t - t^2$$



(a) After how many seconds will the rocket first be at a height of 60 metres?

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(b) Will the rocket reach a height of 70 metres?
Justify your answer.

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