



Simplify fully

$$\frac{6}{(x-5)(x-3)} + \frac{x}{x-3}$$

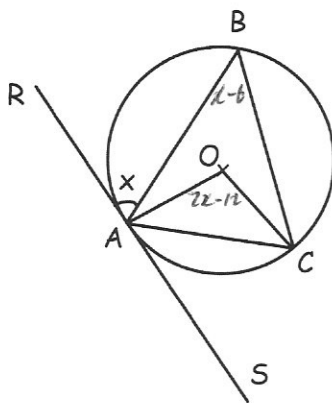
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$$\frac{x-2}{x-5}$$

$$\frac{6 + x(x-5)}{(x-5)(x-3)} = \frac{6+x^2-5x}{(x-5)(x-3)}$$

$$\frac{x^2-5x+6}{(x-5)(x-3)} = \frac{(x-2)(x-3)}{(x-5)(x-3)}$$

A, B and C are points on the circle, centre O.
 RS is a tangent to the circle at A.
 Angle BCA is 6° larger than angle ABC.



Show angle OAC is $96^\circ - x$

$\angle BCA = x$ (alternate segment)
 $\angle ABC = x - 6$ (given)
 $\angle AOC = 2x - 12$ (centre/circumference)
 $\angle OAC = \angle OCA$ ($\triangle OAC$ is isosceles)
 $180 - (2x - 12) = 192 - 2x$
 $(192 - 2x) \div 2 = 96 - x$

A is directly proportional to the cube root of B.
 B is increased by 60%.
 Work out the percentage increase in A.

$$A \propto \sqrt[3]{B}$$

$$\sqrt[3]{1.6} = 1.1696\dots$$

16.96%

The distance between the points (1, 2) and (16, p) is 17.

Find the possible values of p.

$$17^2 - 15^2 = 64$$

$$\sqrt{64} = 8$$

10 or -6

