
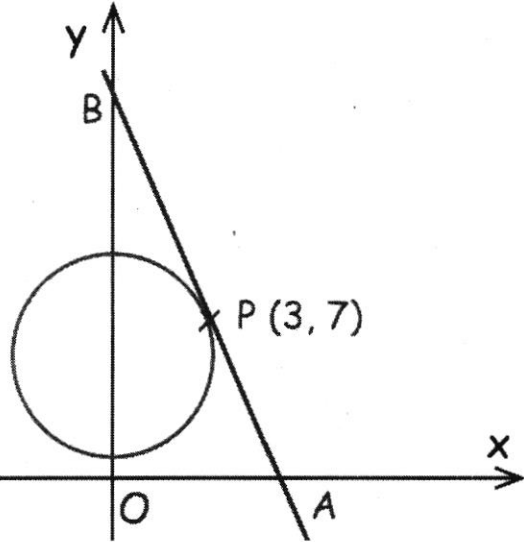


| 10th June | |
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| <p>Write</p> $\frac{3}{4x} \div \frac{6}{7x^2}$ <p>as a fraction in its simplest form.</p> | <div style="text-align: right;">Corbettmaths </div> $\frac{3}{4x} \times \frac{7x^2}{6}$ $= \frac{7x}{8}$ |
| <p> $A = 4 - x$ $B = 7x - 4$ $C = x^2$ </p> <p>Show that</p> $(3A + B)^2 \equiv 6A + 10B + 16C + 80$ | $3A + B = 3(4 - x) + 7x - 4 = 4x + 8$ $(3A + B)^2 = 16x^2 + 64x + 64$ $6A + 10B + 16C + 80$ $= 6(4 - x) + 10(7x - 4) + 16x^2 + 80$ $= 24 - 6x + 70x - 40 + 16x^2 + 80$ $= 16x^2 + 64x + 64$ |
| <p>Shown below is the circle with equation $x^2 + (y - 6)^2 = 10$</p>  | <p>The line AB is a tangent to the circle at the point P (3, 7)</p> <p>Find the area of triangle OAB.</p> <p>C (0, b)</p> $m_{CP} = \frac{1}{3} \Rightarrow m_{\perp} = -3$ <p>Tgt is $y - 7 = -3(x - 3)$</p> $y - 7 = -3x + 9$ $y = -3x + 16$ <p>A ($\frac{16}{3}, 0$) B (0, 16)</p> $\text{Area OAB} = \frac{1}{2} \times \frac{16}{3} \times 16 = \frac{128}{3}$ |
| <p>$y = ax^3 - 5x^2$</p> <p>Given $\frac{d^2y}{dx^2} = -6$ when $x = -\frac{1}{3}$</p> <p>Find a</p> | $\frac{dy}{dx} = 3ax^2 - 10x$ $\frac{d^2y}{dx^2} = 6ax - 10$ $x = -\frac{1}{3} \quad -6 = -2a - 10$ $2a = -4$ $a = -2$ |