

6th April



CorbettMaths

How many even numbers greater than 40000 can be created using these digits?



$6 _ _ _ 2$ 6 options
 $6 _ _ _ 8$ 6
 $8 _ _ _ 2$ 6 $7 \times 6 = 42$
 $8 _ _ _ 6$ 6 $\underline{\quad}$
 $9 _ _ _ 2$ 6
 $9 _ _ _ 6$ 6
 $9 _ _ _ 8$ 6

$$y = x^4 - x^3 + 2x^2 - 9x$$

Find $\frac{d^2y}{dx^2}$ when $x = 10$

$$\frac{dy}{dx} = 4x^3 - 3x^2 + 4x - 9$$

$$\frac{d^2y}{dx^2} = 12x^2 - 6x + 4$$

when $x = 10$

$$\frac{d^2y}{dx^2} = 1144$$

Solve $\frac{(4x+3)(x+2)}{x+1} = 3$

$$4x^2 + 11x + 6 = 3x + 3$$

$$4x^2 + 8x + 3 = 0$$

$$(2x+1)(2x+3) = 0$$

$$x = -\frac{1}{2} \quad \text{or} \quad x = -\frac{3}{2}$$

$$5\cos x - 9\sin x = 0$$

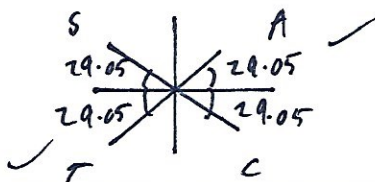
where $0^\circ < x < 360^\circ$

Work out the size of angle x .

$$5\cos x = 9\sin x$$

$$\frac{5}{9} = \tan x$$

$$\tan^{-1}\left(\frac{5}{9}\right) = 29.05^\circ$$



$$x = 29.05^\circ, 209.05^\circ$$