

MODEL ENTRANCE TEST PAPER

BRITISH SECTION

SUBJECT: MATHEMATICS

GRADE: 11

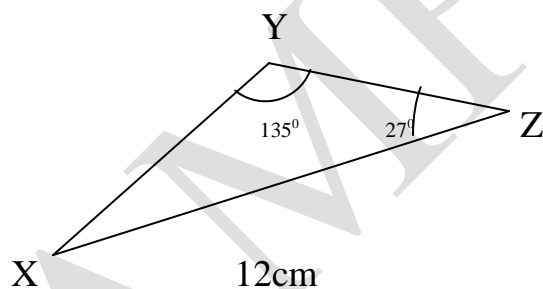
TOTAL MARKS: 25

1. Write as a single fraction in its simplest form. $\frac{5}{5x+1} - \frac{2}{2x-3}$ [2m]

2. Solve the simultaneous equations.

$$\begin{aligned} 3x - y &= -3 \\ 9x + 2y &= 1 \end{aligned} \quad [2m]$$

3. [2m]



In triangle xyz angle xyz = 135°
Angle yzx = 27°, and xz = 12 cm
Calculate the length of yz

4. Solve.

(a) $0.2x + 3.6 - 1.2$

Answer (a) $x =$ _____

[2m]

(b) $\frac{2-3x}{5} < x+2$

Answer (b) _____

[2m]

5. Factorise completely.

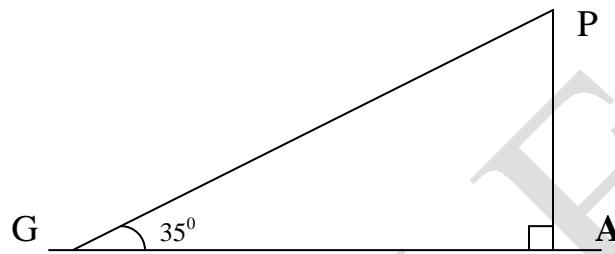
(a) $x^4 - y^4$

[2m]

(b) $6x^2 - 11x - 10$

[2m]

6.



21.3 m

A wire GP, connects the top of a vertical Pole, AP, to the horizontal ground.

$CA = 21.3$ and $\angle PGA = 35^\circ$

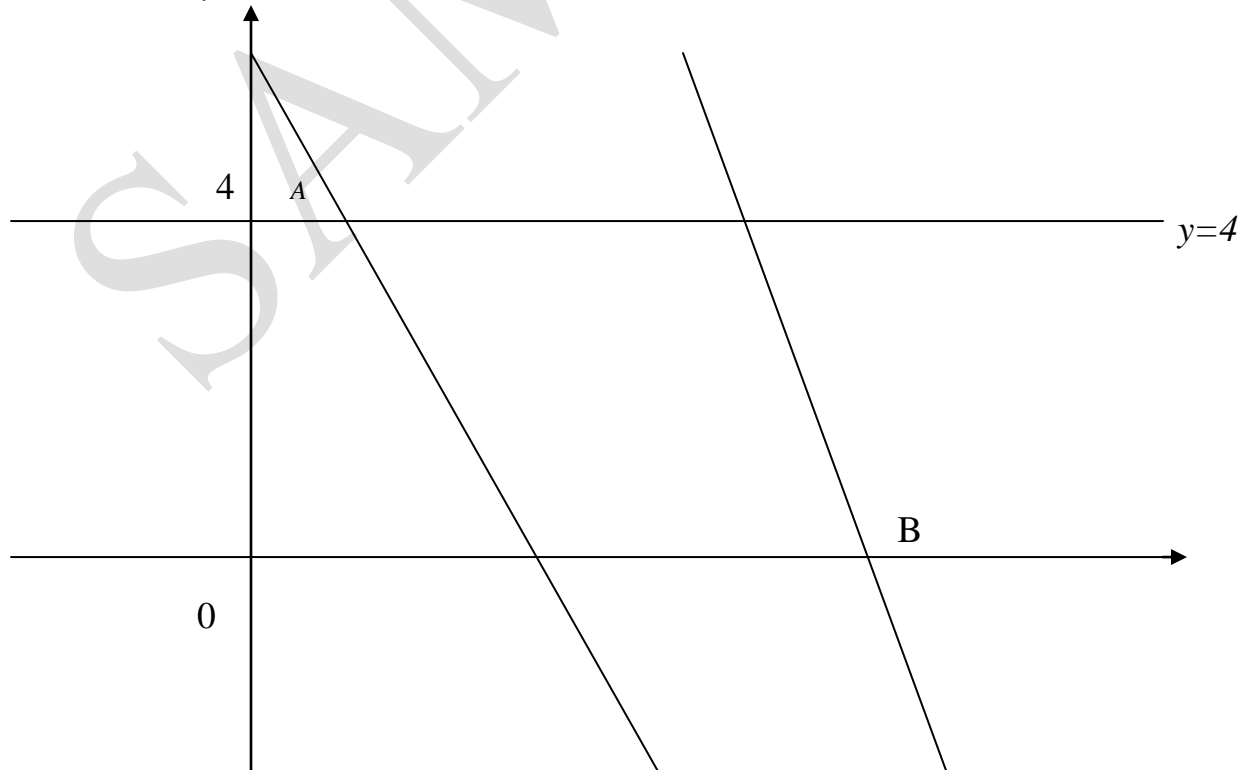
Calculate, the length of the wire.

[1m]

7.

y

Not to Scale



- (a) The line $y=4$ meets the line $2x+y=8$ at the point A. [1m]

Find the co-ordinates of A.

Answer (a) A (-----, -----)

- (b) The line $3x+y=18$ meets the x axis at the point B. [1m]

Find the co-ordinates of B.

Answer (b) B (-----, -----)

(c)

- (i) Find the co-ordinates of the mid-point M of the line joining A to B. [1m]

Answer(c) (i) M (-----, -----)

- (ii) Find the equation of the line through M parallel to $3x + y = 18$. [2m]

Answer(c) (ii) (-----, -----)

8. A, B and C are points on a circle, centre O angle $\text{AOB} = 40^\circ$.

- (a) Find $\angle \text{OAB}$ [1m]

(b) The radius of the circle is 5cm

- (i) Calculate the length of the minor arc AB [2m]

- (ii) Calculate the area of the minor sector OAB. [2m]