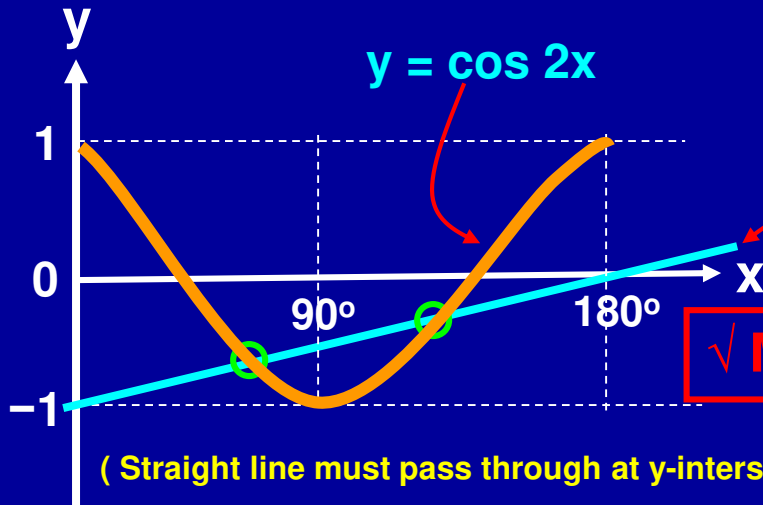


**TOPIC:**

**TRIGONOMETRIC  
FUNCTIONS**

# Q9: Section A

(a)



Shape of graph

Maximum 1 & Minimum -1

1/2 Period

✓ A1

✓ A1

✓ A1

✓ M1

✓ K1

(b)

$$2\sin^2 x = 1 - \cos 2x \implies 1 - y = 2 - \frac{x}{180}$$

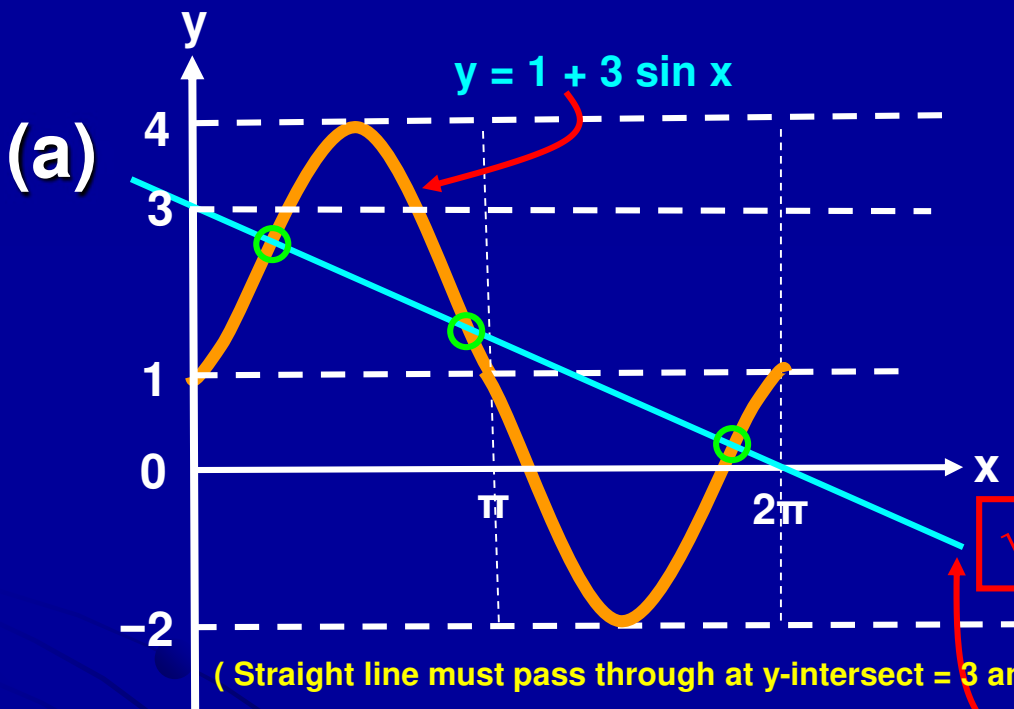
$$y = \frac{x}{180} - 1$$

Number of solution = 2

✓ A1

x	0	180°
y	-1	0

# Q10: Section A



Basic shape of graph ✓ A1  
 Y-intersect at 1 ✓ A1  
 Maximum 4 & Minimum - 2 ✓ A1  
 1 Period ✓ A1

(b)

$$6\pi \sin x = 4\pi - 3x$$

$$\Rightarrow 3 \sin x = \frac{4\pi - 3x}{2\pi}$$

$$\Rightarrow 1 + 3 \sin x = 3 - \frac{3x}{2\pi}$$

$$\Rightarrow y = 3 - \frac{3x}{2\pi}$$

✓ M1

✓ K1

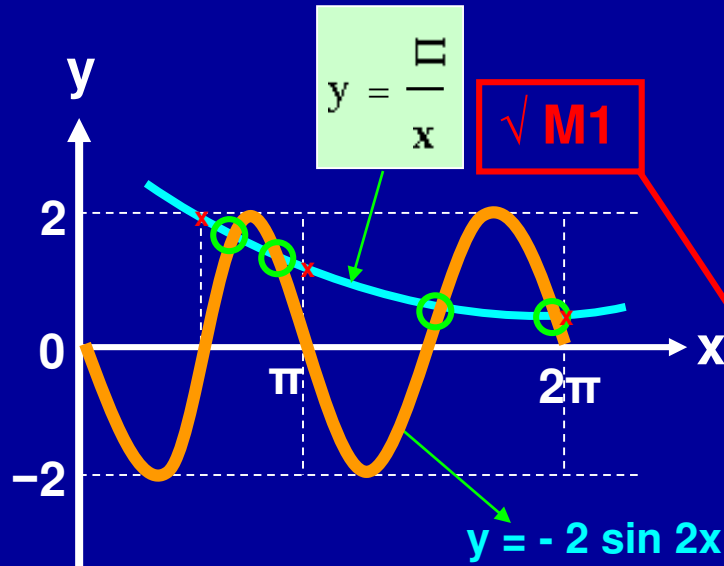
x	0	$2\pi$
y	3	0

✓ A1

No. of solution = 3

# Q11: Section A

(a)



- Basic shape of graph ✓ A1
- Reflection graph ✓ A1
- Maximum 2 & Minimum - 2 ✓ A1
- 2 Periods ✓ A1

(b)

$$\frac{\pi}{x} + 2 \sin 2x = 0 \rightarrow y = \frac{\pi}{x}$$

✓ K1

No. of solution = 4

✓ A1

To plot curve  $y = \pi/x$

x	$\pi/2$	$\pi$	$2\pi$
y	2	1	$1/2$