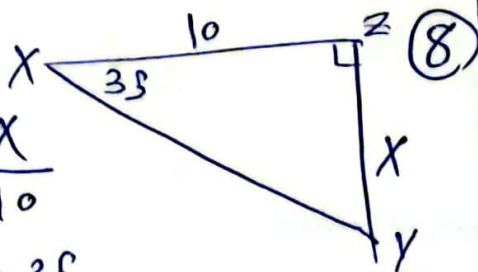


1) على الحرف P

$$\tan 35 = \frac{X}{10}$$

$$X = 10 \tan 35$$

$$X \approx 7 \text{ (A)}$$

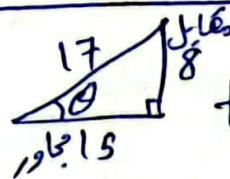


السؤال المثلثة

$$\sec \theta = \frac{1}{\cos \theta} \text{ (B) (1)}$$

$$\tan \theta = \frac{\text{مقابل}}{\text{جوار}} = \frac{8}{15} \text{ (2)}$$

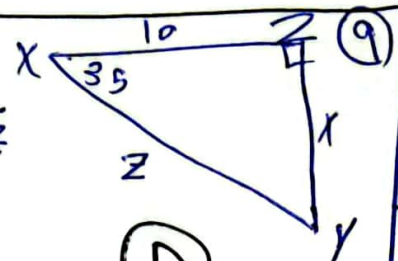
$$\cot \theta = \frac{15}{8} \text{ (D)}$$



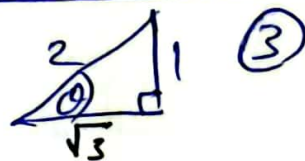
$$\cos 35 = \frac{10}{Z}$$

$$Z \cdot \cos 35 = 10$$

$$Z = \frac{10}{\cos 35} \approx 12.2 \text{ (D)}$$



$$\cos \theta = \frac{\sqrt{3}}{2} \text{ (B) (3)}$$

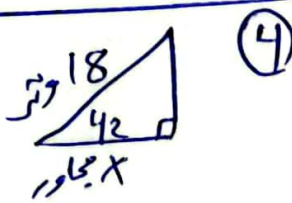


$$45^\circ \cdot \frac{\pi}{180} = \frac{\pi}{4} \text{ (C) (10)}$$

$$\cos 42 = \frac{X}{18}$$

$$\Rightarrow X = 18 \cos 42$$

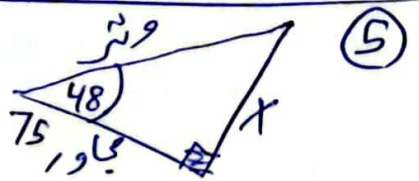
$$X = 13.4 \text{ (B)}$$



$$\frac{5\pi}{6} \cdot \frac{180}{\pi} = 150 \text{ (B) (11)}$$

$$\tan 48 = \frac{X}{75}$$

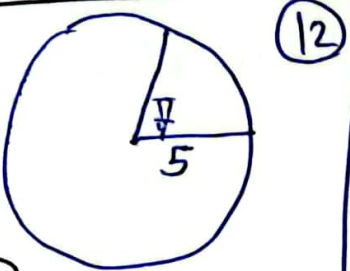
$$X = 75 \tan 48 \approx 83 \text{ (C) (5)}$$



$$S = r\theta$$

$$= 5 \left(\frac{\pi}{4} \right)$$

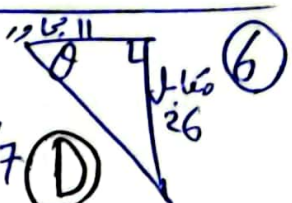
$$\approx 3.9 \text{ (C)}$$



$$S = r\theta = 2 \left(60 \frac{\pi}{180} \right) = \frac{2\pi}{3} \text{ (A) (12)}$$

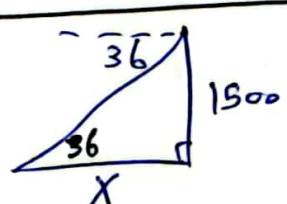
$$\tan \theta = \frac{26}{11}$$

$$\theta = \tan^{-1} \frac{26}{11} \approx 67 \text{ (D) (6)}$$



$$A = \frac{1}{2} r^2 \theta = \frac{1}{2} (3)^2 \cdot \frac{7\pi}{8}$$

$$A = \frac{63\pi}{16} \text{ (C) (14)}$$



$$\tan 36 = \frac{1500}{X}$$

$$X \cdot \tan 36 = 1500 \Rightarrow X = \frac{1500}{\tan 36}$$

$$X = 2065 \text{ (C) (7)}$$

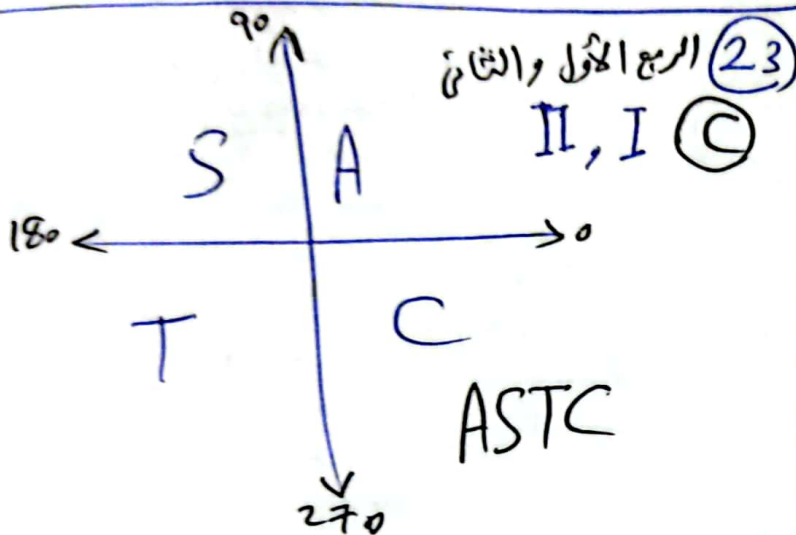


$$\theta = 300^\circ \rightarrow \text{المربع } \theta' = 360 - 300$$

$$\text{الربع الرابع } \theta = 60^\circ \text{ (C)}$$

$$\sin \frac{5(180)}{6} = \sin 150$$

$$= \frac{1}{2} \text{ (A)}$$



$$\text{(B) } |a| = 3 = \text{السعة} \text{ (24)}$$

$$y = \cos\left(\frac{x}{3} + \frac{\pi}{2}\right) \text{ (25)}$$

$$\text{الدورة} = \frac{2\pi}{|b|} = \frac{2\pi}{\frac{1}{3}} = 6\pi \text{ (D)}$$

$$y = \cos\left(x - \frac{3\pi}{2}\right) - 1 \text{ (26)}$$

$$\text{مضاعفة الطور} = \frac{-c}{|b|} = \frac{-(-\frac{3\pi}{2})}{1} = \frac{3\pi}{2} \text{ (A)}$$

$$y = \sin\left(x + \frac{5\pi}{6}\right) + 4 \text{ (27)}$$

$$\text{مضاعفة الرأسية } d = 4 \text{ (D)}$$

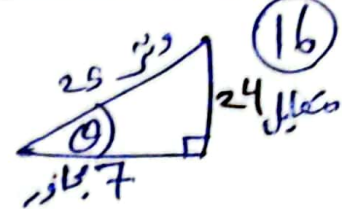
$$\tan \theta = \frac{1}{\cot \theta} = \frac{1}{1} = 1 \text{ (A) (15)}$$

$$\cos \theta = \frac{7}{25}$$

$$\sin \theta = \frac{\text{مقابل}}{\text{وتر}}$$

$$\sin \theta = \frac{24}{25} \text{ (B)}$$

$$\text{بالجيب} \sin\left[\cos^{-1}\frac{7}{25}\right] = \frac{24}{25}$$



$$56^\circ \left(\frac{\pi}{180}\right) = \frac{14\pi}{45} \text{ (A) (17)}$$

$$\begin{matrix} (8, -6) \\ x \leftarrow \quad \rightarrow y \end{matrix}$$

$$r = \sqrt{8^2 + (-6)^2} = 10$$

$$\cot \theta = \frac{x}{y} = \frac{8}{-6} = \left(-\frac{4}{3}\right) \text{ B}$$

$$\frac{1}{\cos 4\pi} = \frac{1}{\cos 4(180)} = 1 \text{ (C) (19)}$$

$$\frac{-2\pi}{3} = \frac{-2(180)}{3} = -120$$

$$\text{الربع الثاني } \boxed{240} \leftarrow +360$$

$$\text{زاوية المربع} = 240 - 180 = 60$$

$$\text{زاوية المربع} = \frac{\pi}{3} \text{ (B)}$$



$$y = \cot \frac{x}{3} \quad (33)$$

$$\frac{x}{3} = 0 \quad \left| \quad \frac{x}{3} = \pi \right. \quad \text{خطي التقارب}$$

$$(x=0) \quad (x=3\pi)$$

الجواب (C)

$$y = \csc(x + \frac{\pi}{2}) \quad (34)$$

$$x + \frac{\pi}{2} = \pi \quad \left| \quad x + \frac{\pi}{2} = -\pi \right. \quad \text{خطي التقارب}$$

$$(x = \frac{\pi}{2}) \quad (x = -\frac{3\pi}{2})$$

الجواب (D)

$$y = \sec \frac{x}{4} \quad (35)$$

$$\frac{x}{4} = -\frac{\pi}{2} \quad \left| \quad \frac{x}{4} = \frac{3\pi}{2} \right. \quad \text{خطي التقارب}$$

$$(x = -2\pi) \quad (x = 6\pi)$$

الجواب (B)

$$y = \sin^{-1} x \quad \text{مدى الدالة} \quad (36)$$

$$[-\frac{\pi}{2}, \frac{\pi}{2}] \quad (B)$$

$$y = \cos^{-1} x \quad \text{مدى الدالة} \quad (37)$$

$$[0, \pi] \quad (D)$$

$$y = \tan^{-1} x \quad \text{مدى الدالة} \quad (38)$$

$$(-\infty, \infty) \quad (A)$$

$$\sin(\tan^{-1} \frac{1}{5}) = \frac{\sqrt{5}}{5} \quad (39)$$

$$\sin u = \frac{\text{مقابل}}{\text{وتر}} = \frac{1}{\sqrt{5}} = \frac{\sqrt{5}}{5}$$



$$\text{المعادلة المثلثية} \quad (28)$$

$$y = 2 \sin 2x \quad (C)$$

حيث السعة 2 والدورة π

$$g(x) = 6 \cos x \quad \text{مدى الدالة} \quad (29)$$

$$6[-1, 1] = [-6, 6] \quad (A)$$

$$y = 3 \sin(x - \pi) \quad (30)$$

بإضافة دورة كاملة 2π لتصبح

$$y = 3 \sin(x + \pi) \quad (A)$$

$$\text{المعادلة المثلثية} \quad (31)$$

$$y = \cot(\theta + \frac{\pi}{4}) \quad (A)$$

$$\left. \begin{array}{l} b\theta + c = 0 \\ b\theta + c = \pi \end{array} \right\} \quad \text{تذكر خطي التقارب}$$

$$y = \tan(2x + \frac{\pi}{2}) \quad (32)$$

$$2x + \frac{\pi}{2} = \frac{\pi}{2} \quad \left| \quad 2x + \frac{\pi}{2} = -\frac{\pi}{2} \right. \quad \text{خطي التقارب}$$

$$2x = 0 \quad 2x = -\pi$$

$$(x = 0) \quad (x = -\frac{\pi}{2})$$

الجواب (C)