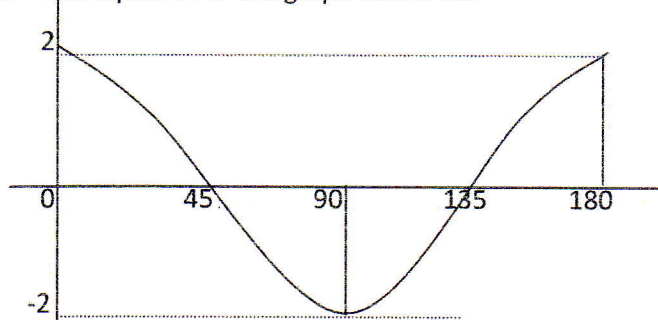


## COMMON TEST EXERCISE

1. If A is acute angle and  $\tan A = \frac{3}{5}$ , then the value of  $\sin A = \dots$
2. The value of  $\sin 1020^\circ$  is ...
3.  $\cos 1.050^\circ = \dots$
4. If  $\sec \beta = -\frac{6}{5}$ ,  $90^\circ < \beta < 180^\circ$  then  $\operatorname{cosec} \beta =$
5.  $\sin -220^\circ$  is equivalent with ...
6.  $\sin \frac{\pi}{3} + \tan \frac{\pi}{6} - \sin \frac{5\pi}{4} = \dots$
7. The solution set of  $2 \cos x - \sqrt{3} = 0$  for  $0 < x < 2\pi$  is ...
8. In the triangle ABC given that side  $a = 5$ ,  $b = 7$  and  $c = 4$ . Then  $\cos A = \dots$
9. The equation of the graph below is...



10. In the triangle PQR given that  $PQ = 12$  cm,  $\angle PQR = 100^\circ$  and  $\angle PRQ = 35^\circ$ . Side  $QR = \dots$  cm
11. In the triangle ABC, given that  $\angle C = 60^\circ$ , side  $B = 6$  cm and side  $C = 11$  cm. The area of the triangle is... cm
12. In the triangle ABC given that  $a = 4$  cm,  $b = 3$  cm. If the area of the triangle  $= 6$  cm<sup>2</sup>, then angle  $C = \dots$
13. The negation of : "semua siswa SMA tidak suka belajar" is...
14. Find the truth value is...
  - a)  ${}^2\log 8 = 3$  atau 3 bilangan komposit
  - b) jika  $\sin^2 x + \cos^2 x = 1$  maka  $\sin 2\pi = -1$
  - c)  $8^{x-1} = 4$ ,  $x = 5/3$  dan  $\sqrt{48} = 4\sqrt{3}$
  - d)  $\log a + \log b = \log ab$  jika dan hanya jika  $({}^2\log 3)({}^3\log 2) = 1$
15. If statement p is true, q is false and r is true, then find the truth value
 

A. $(p \wedge q) \rightarrow r$	D. $p \rightarrow (q \vee \sim r)$
B. $(p \vee \sim q) \wedge r$	E. $(q \wedge r) \vee \sim p$
C. $(p \vee q) \wedge \sim r$	
16. Find the value of x so that the statement "if  ${}^2\log a + {}^2\log b = {}^2\log ab$  then  $x^2 + 3x - 4 \leq 0$ " has true value
  - A.  ${}^3\log x = 4$  atau  $3^2 \cdot 9^{-2} = -\frac{1}{9}$
  - B.  $\cos \frac{\pi}{2} = 0$  dan  $2 \sin x = 1$ ,  $0 < x < 90^\circ$
  - C. jika  $\sec x = \frac{1}{\cos x}$  maka  $x^2 - x - 2 \geq 0$
  - D. 36 kelipatan dari 3 jika dan hanya jika  $\frac{x+1}{2x-6} \leq 0$
  - E.  $\sin^2 x - \cos^2 x = -1$  syarat perlu untuk  $\tan x = 1$ ,  $180^\circ < x < 270^\circ$

17. Find the negation
  - A. Jika semua bilangan prima ganjil maka 2 bukan bilangan prima
  - B. Gajah tidak punya taring dan kucing mengeong
  - C. Bulan bersinar di malam hari atau 4 faktor dari 24
  - D.  $(\sim p \wedge q) \rightarrow r$
18. Konvers dari invers implikasi: "jika Nafila tidak rajin belajar maka semua temannya tidak senang" adalah...
19. The statement "jika Khurin pandai menyanyi maka semua orang senang" is equivalent with...
20. Given the premises:
  - (1) If the teacher was absent then all students were happy
  - (2) There's a student which was not happy
 The conclusion is...
21. Which of the following arguments are valid?
 

A. $\sim p \vee q$	(B)
$\frac{p}{q}$	(B)
$\frac{q}{\sim r}$	(B)
B. $p \rightarrow q$	(B)
$\frac{q \vee r}{\sim p}$	(B)
C. $p \leftrightarrow q$	(B)
$\frac{p}{q}$	(B)
$\frac{q}{\sim p}$	(B)
D. $\sim q \leftrightarrow p$	(B)
$\frac{q \vee \sim p}{q}$	(B)
E. $p \rightarrow q$	(B)
$\frac{\sim r \rightarrow \sim q}{\sim r}$	(B)
$\frac{\sim r}{\sim p}$	(B)
22. If  $\tan \alpha^\circ = -\frac{5}{3}$  ( $270 < \alpha < 360$ ) then find  $\sin \alpha^\circ$ ,  $\cos \alpha^\circ$ ,  $\sec \alpha^\circ$ ,  $\operatorname{cosec} \alpha^\circ$  and  $\cot \alpha^\circ$ .
23. Prove the identity below :
  - a.  $\tan A = \frac{\cot A \cdot \sec^2 A}{1 + \cot^2 A}$
  - b.  $\frac{\cot^2 A}{\operatorname{cosec}^2 A} + \sin^2 A = 1$
24. Sebuah kapal berlayar dari pelabuhan P ke arah timur laut sejauh 150 mil sampai di Q. Kemudian dari Q berlayar sejauh 200 mil dengan arah  $120^\circ$  sampai di R, kemudian kembali ke pelabuhan P.
  - a. Buatlah sketsa perjalanan kapal tersebut.
  - b. Hitunglah jarak R dari pelabuhan P.
  - c. Hitunglah luas daerah yang dibatasi oleh lintasan kapal tersebut
25. Find the area of hexagon with radius of 25 cm
26. Buatlah tabel kebenaran  $(p \vee q) \wedge (\sim p \leftrightarrow q)$ . Simpulan apa yang anda peroleh?
27. Simplify:  $(p \wedge \sim q) \rightarrow \sim p$