

12 REVISION TESTS

Test 1

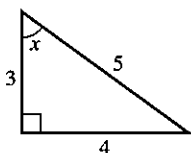
1. How many mm are there in 1 m 1 cm?

- A 10 01
- B 11 10
- C 10 10
- D 11 00

2. The circumference of a circle is 16π cm. The radius, in cm, of the circle is

- A 2
- B 4
- C $\frac{4}{\pi}$
- D 8

3. In the triangle below the value of $\cos x$ is



- A 0.8
- B 1.333
- C 0.75
- D 0.6

4. The line $y = 2x - 1$ cuts the x -axis at P. The coordinates of P are

- A (0, -1)
- B $(\frac{1}{2}, 0)$
- C $(-\frac{1}{2}, 0)$
- D (-1, 0)

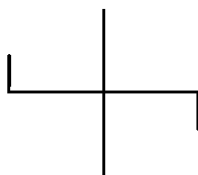
5. The formula $b + \frac{x}{a} = c$ is rearranged to make x the subject.
What is x ?

- A $a(c - b)$
- B $ac - b$
- C $\frac{c - b}{a}$
- D $ac + ab$

6. The mean weight of a group of 11 men is 70 kg. What is the mean weight of the remaining group when a man of weight 90 kg leaves?

- A 80 kg
- B 72 kg
- C 68 kg
- D 62 kg

7. How many lines of symmetry has this shape?



- A 0
- B 1
- C 2
- D 4

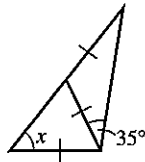
8. In standard form the value of $200 \times 80\,000$ is

- A 16×10^6
- B 1.6×10^9
- C 1.6×10^7
- D 1.6×10^8

9. The solutions of the equation $(x - 3)(2x + 1) = 0$ are

- A $-3, \frac{1}{2}$
- B $3, -2$
- C $3, -\frac{1}{2}$
- D $-3, -2$

10. In the triangle the size of angle x is



- A 35°
- B 70°
- C 110°
- D 40°

11. A man paid tax on \$9000 at 30%. He paid the tax in 12 equal payments. Each payment was

- A \$2.25
- B \$22.50
- C \$225
- D \$250

12. The approximate value of $\frac{3.96 \times (0.5)^2}{97.1}$ is

- A 0.01
- B 0.02
- C 0.04
- D 0.1

13. Given that $\frac{3}{n} = 5$, then $n =$

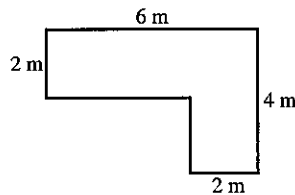
- A 2
- B -2
- C $1\frac{2}{3}$
- D 0.6

14. Cube A has side 2 cm. Cube B has side 4 cm.

$$\left(\frac{\text{Volume of B}}{\text{Volume of A}}\right) =$$

- A 2
- B 4
- C 8
- D 16

15. How many square tiles of side 50 cm will be needed to cover the floor shown?



- A 16
- B 32
- C 64
- D 84

16. The equation $ax^2 + x - 6 = 0$ has a solution $x = -2$. What is a ?

- A 1
- B -2
- C $\sqrt{2}$
- D 2

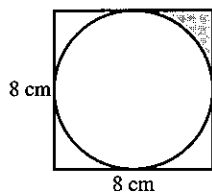
17. Which of the following is/are correct?

1. $\sqrt{0.16} = \pm 0.4$
2. $0.2 \div 0.1 = 0.2$
3. $\frac{4}{7} > \frac{2}{5}$

- A 1 only
- B 2 only
- C 3 only
- D 1 and 2

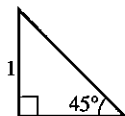


18. How many prime numbers are there between 30 and 40? A 0
 B 1
 C 2
 D 3
19. A man is paid \$600 per week after a pay rise of 20%. What was he paid before? A \$480
 B \$500
 C \$540
 D \$580
20. A car travels for 20 minutes at 45 km/h and then for 40 minutes at 60 km/h. The average speed for the whole journey is A $52\frac{1}{2}$ km/h
 B 50 km/h
 C 54 km/h
 D 55 km/h
21. The point $(3, -1)$ is reflected in the line $y = 2$. The new coordinates are A $(3, 5)$
 B $(1, -1)$
 C $(3, 4)$
 D $(0, -1)$
22. Two discs are randomly taken without replacement from a bag containing 3 red discs and 2 blue discs. What is the probability of taking 2 red discs? A $\frac{9}{25}$
 B $\frac{1}{10}$
 C $\frac{3}{10}$
 D $\frac{2}{5}$
23. The shaded area, in cm^2 , is A $16 - 2\pi$
 B $16 - 4\pi$
 C $\frac{4}{\pi}$
 D $64 - 8\pi$



24. Given the equation $5^x = 120$, the best approximate solution is $x =$ A 2
 B 3
 C 4
 D 25

25. What is the sine of 45° ?



- A 1
 B $\frac{1}{2}$
 C $\frac{1}{\sqrt{2}}$
 D $\sqrt{2}$

Test 2

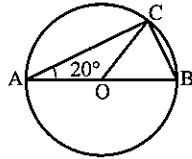
1. What is the value of the expression $(x - 2)(x + 4)$ when $x = -1$?

- A 9
- B -9
- C 5
- D -5

2. The perimeter of a square is 36 cm. What is its area?

- A 36 cm^2
- B 324 cm^2
- C 81 cm^2
- D 9 cm^2

3. AB is a diameter of the circle. Find the angle BCO.



- A 70°
- B 20°
- C 60°
- D 50°

4. The gradient of the line $2x + y = 3$ is

- A 3
- B -2
- C $\frac{1}{2}$
- D $-\frac{1}{2}$

5. A firm employs 1200 people, of whom 240 are men. The percentage of employees who are men is

- A 40%
- B 10%
- C 15%
- D 20%

6. A car is travelling at a constant speed of 30 km/h. How far will the car travel in 10 minutes?

- A $\frac{1}{3}$ mile
- B 3 km
- C 5 km
- D 6 km

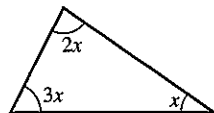
7. What are the coordinates of the point $(1, -1)$ after reflection in the line $y = x$?

- A $(-1, 1)$
- B $(1, 1)$
- C $(-1, -1)$
- D $(1, -1)$

8. $\frac{1}{3} + \frac{2}{5} =$

- A $\frac{2}{8}$
- B $\frac{3}{8}$
- C $\frac{3}{15}$
- D $\frac{11}{15}$

9. In the triangle the size of the largest angle is



- A 30°
- B 90°
- C 120°
- D 80°

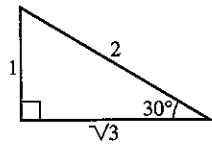
10. 800 decreased by 5% is

- A 795
- B 640
- C 760
- D 400

11. Which of the statements is (are) true?

1. $\tan 60^\circ = 2$
2. $\sin 60^\circ = \cos 30^\circ$
3. $\sin 30^\circ > \cos 30^\circ$

- A 1 only
- B 2 only
- C 3 only
- D 2 and 3



12. Given $a = \frac{3}{5}$, $b = \frac{1}{3}$, $c = \frac{1}{2}$ then

- A $a < b < c$
- B $a < c < b$
- C $a > b > c$
- D $a > c > b$

13. The larger angle between South-West and East is

- A 225°
- B 240°
- C 135°
- D 315°

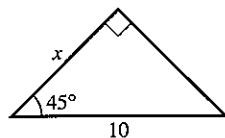
14. Each exterior angle of a regular polygon with n sides is 10° ; $n =$

- A 9
- B 18
- C 30
- D 36

15. What is the value of $1 - 0.05$ as a fraction?

- A $\frac{1}{20}$
- B $\frac{9}{10}$
- C $\frac{19}{20}$
- D $\frac{5}{100}$

16. Find the length x .



- A 5
- B 6
- C 8
- D $\sqrt{50}$

17. Given that $m = 2$ and $n = -3$, what is mn^2 ?

- A -18
- B 18
- C -36
- D 36

18. The graph of $y = (x - 3)(x - 2)$ cuts the y -axis at P.
The coordinates of P are

- A (0, 6)
- B (6, 0)
- C (2, 0)
- D (3, 0)

19. \$240 is shared in the ratio 2:3:7. The largest share is

- A \$130
- B \$140
- C \$150
- D \$160

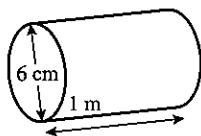
20. Adjacent angles in a parallelogram are x° and $3x^\circ$.
The smallest angles in the parallelogram are each

- A 30°
- B 45°
- C 60°
- D 120°

21. When the sides of a square are increased by 10% the area is increased by

- A 10%
- B 20%
- C 21%
- D 15%

22. The volume, in cm^3 , of the cylinder is



- A 9π
- B 12π
- C 600π
- D 900π

23. A car travels for 10 minutes at 30 km/h and then for 20 minutes at 45 km/h. The average speed for the whole journey is

- A 40 km/h
- B $37\frac{1}{2}$ km/h
- C 20 km/h
- D 35 km/h

24. Four people each toss a coin. What is the probability that the fourth person will toss a 'tail'?

- A $\frac{1}{2}$
- B $\frac{1}{4}$
- C $\frac{1}{8}$
- D $\frac{1}{16}$

25. A rectangle 8 cm by 6 cm is inscribed inside a circle.
What is the area, in cm^2 , of the circle?

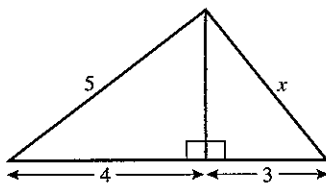
- A 10π
- B 25π
- C 49π
- D 100π

Test 3

1. The price of a T.V. changed from \$240 to \$300. What is the percentage increase?

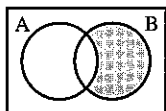
- A 15%
- B 20%
- C 60%
- D 25%

2. Find the length x .



- A 6
- B 5
- C $\sqrt{44}$
- D $\sqrt{18}$

3. The bearing of A from B is 120° . What is the bearing of B from A?
A 060°
B 120°
C 240°
D 300°
4. Numbers m , x and y satisfy the equation $y = mx^2$.
 When $m = \frac{1}{2}$ and $x = 4$ the value of y is
A 4
B 8
C 1
D 2
5. A school has 400 pupils, of whom 250 are boys. The ratio of boys to girls is
A 5:3
B 3:2
C 3:5
D 8:5
6. A train is travelling at a speed of 30 km per hour. How long will it take to travel 500 m?
A 2 minutes
B $\frac{3}{50}$ hour
C 1 minute
D $\frac{1}{2}$ hour
7. The approximate value of $\frac{9.65 \times 0.203}{0.0198}$ is
A 100
B 10
C 1
D 180
8. Which point does *not* lie on the curve $y = \frac{12}{x}$?
A (6, 2)
B $(\frac{1}{2}, 24)$
C (-3, -4)
D (3, -4)
9. $t = \frac{c^3}{y}$, $y =$
A $\frac{t}{c^3}$
B c^3t
C $c^3 - t$
D $\frac{c^3}{t}$
10. The largest number of 1 cm cubes which will fit inside a cubical box of side 1 m is
A 10^3
B 10^6
C 10^8
D 10^{12}
11. The shaded area in the Venn diagram represents
A $A' \cup B$
B $A \cap B'$
C $A' \cap B$
D $(A \cap B)'$



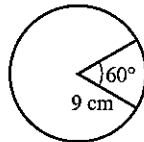
12. Which of the following has the largest value?

- A $\sqrt{100}$
- B $\sqrt{\frac{1}{0.1}}$
- C $\sqrt{1000}$
- D $\frac{1}{0.01}$

13. Two dice numbered 1 to 6 are thrown together and their scores are added. The probability that the sum will be 12 is

- A $\frac{1}{6}$
- B $\frac{1}{12}$
- C $\frac{1}{18}$
- D $\frac{1}{36}$

14. The length, in cm, of the minor arc is



- A 2π
- B 3π
- C 6π
- D $13\frac{1}{2}\pi$

15. Metal of weight 84 kg is made into 40 000 pins. What is the weight, in kg, of one pin?

- A 0.0021
- B 0.0036
- C 0.021
- D 0.21

16. What is the value of x which satisfies the simultaneous equations?

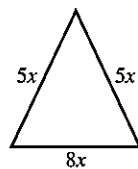
$$\begin{aligned} 3x + y &= 1 \\ x - 2y &= 5 \end{aligned}$$

- A -1
- B 1
- C -2
- D 2

17. What is the new fare when the old fare of \$250 is increased by 8%?

- A \$258
- B \$260
- C \$270
- D \$281.25

18. What is the area of this triangle?



- A $12x^2$
- B $15x^2$
- C $16x^2$
- D $30x^2$

19. What values of x satisfy the inequality $2 - 3x > 1$?

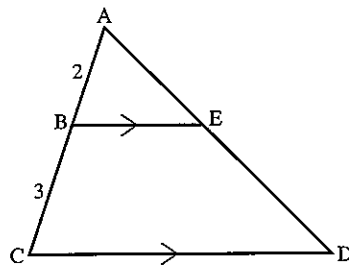
- A $x < -\frac{1}{3}$
- B $x > -\frac{1}{3}$
- C $x > \frac{1}{3}$
- D $x < \frac{1}{3}$



20. A right-angled triangle has sides in the ratio 5 : 12 : 13. The tangent of the smallest angle is

- A $\frac{12}{5}$
- B $\frac{12}{13}$
- C $\frac{5}{13}$
- D $\frac{5}{12}$

21. The area of $\triangle ABE$ is 4 cm^2 . The area of $\triangle ACD$ is



- A 10 cm^2
- B 6 cm^2
- C 25 cm^2
- D 16 cm^2

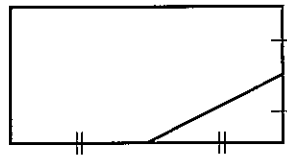
22. Given $2^x = 3$ and $2^y = 5$, the value of 2^{x+y} is

- A 15
- B 8
- C 4
- D 125

23. The probability of an event occurring is 0.35. The probability of the event *not* occurring is

- A $\frac{1}{0.35}$
- B 0.65
- C 0.35
- D 0

24. What fraction of the area of the rectangle is the area of the triangle?



- A $\frac{1}{4}$
- B $\frac{1}{8}$
- C $\frac{1}{16}$
- D $\frac{1}{32}$

25. On a map a distance of 36 km is represented by a line of 1.8 cm. What is the scale of the map?

- A 1 : 2000
- B 1 : 20 000
- C 1 : 200 000
- D 1 : 2000 000

Test 4

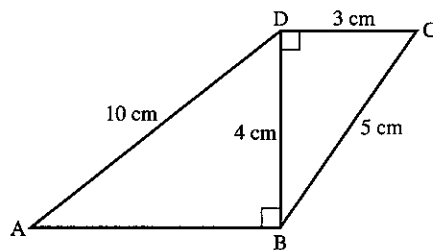
1. What is the value of x satisfying the simultaneous equations

$$\begin{aligned} 3x + 2y &= 13 \\ x - 2y &= -1 \end{aligned}$$

- A 7
- B 3
- C $3\frac{1}{2}$
- D 2

2. A straight line is 4.5 cm long. $\frac{2}{5}$ of the line is
- A 0.4 cm
 B 1.8 cm
 C 2 cm
 D 0.18 cm
3. The mean of four numbers is 12. The mean of three of the numbers is 13. What is the fourth number?
- A 9
 B 12.5
 C 7
 D 1
4. How many cubes of edge 3 cm are needed to fill a box with internal dimensions 12 cm by 6 cm by 6 cm?
- A 8
 B 18
 C 16
 D 24

For questions 5 to 7 use the diagram below.



5. The length of AB, in cm, is
- A 6
 B $\sqrt{116}$
 C 8
 D $\sqrt{84}$
6. The sine of angle DCB is
- A 0.8
 B 1.25
 C 0.6
 D 0.75
7. The tangent of angle CBD is
- A 0.6
 B 0.75
 C 1.333
 D 1.6
8. The value of 4865.355 correct to 2 significant figures is
- A 4865.36
 B 4865.35
 C 4900
 D 49
9. What values of y satisfy the inequality $4y - 1 < 0$?
- A $y < 4$
 B $y < -\frac{1}{4}$
 C $y > \frac{1}{4}$
 D $y < \frac{1}{4}$

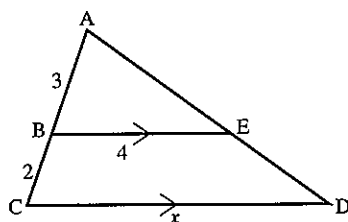
10. The area of a circle is $100\pi \text{ cm}^2$. The radius, in cm, of the circle is

- A 50
B 10
C $\sqrt{50}$
D 5

11. If $f(x) = x^2 - 3$, then $f(3) - f(-1) =$

- A 5
B 10
C 8
D 9

12. In the triangle BE is parallel to CD. What is x ?



- A $6\frac{2}{3}$
B 6
C $7\frac{1}{2}$
D $5\frac{3}{4}$

13. The cube root of 64 is

- A 2
B 4
C 8
D 16

14. Given $a + b = 10$
and $a - b = 4$
then $2a - 5b =$

- A 0
B -1
C 1
D 3

15. Given $16^x = 4^4$, what is x ?

- A -2
B $-\frac{1}{2}$
C $\frac{1}{2}$
D 2

16. What is the area, in m^2 , of a square with each side 0.02 m long?

- A 0.0004
B 0.004
C 0.04
D 0.4

17. I start with x , then square it, multiply by 3 and finally subtract 4.
The final result is

- A $(3x)^2 - 4$
B $(3x - 4)^2$
C $3x^2 - 4$
D $3(x - 4)^2$

18. How many prime numbers are there between 50 and 60?

- A 1
B 2
C 3
D 4

19. What are the coordinates of the point $(2, -2)$ after reflection in the line $y = -x$?
20. The area of a circle is $36\pi \text{ cm}^2$. The circumference, in cm, is
21. The gradient of the line $2x - 3y = 4$ is
22. When all three sides of a triangle are trebled in length, the area is increased by a factor of
23. $a = \sqrt{\left(\frac{m}{x}\right)}$
 $x =$
24. A coin is tossed three times. The probability of getting three 'heads' is
25. A triangle has sides of length 5 cm, 5 cm and 6 cm. What is the area, in cm^2 ?
- A $(-2, 2)$
B $(2, -2)$
C $(-2, -2)$
D $(2, 2)$
- A 6π
B 18π
C $12\sqrt{\pi}$
D 12π
- A $\frac{2}{3}$
B $1\frac{1}{2}$
C $-\frac{4}{3}$
D $-\frac{3}{4}$
- A 3
B 6
C 9
D 27
- A a^2m
B $a^2 - m$
C $\frac{m}{a^2}$
D $\frac{a^2}{m}$
- A $\frac{1}{3}$
B $\frac{1}{6}$
C $\frac{1}{8}$
D $\frac{1}{16}$
- A 12
B 15
C 18
D 20