

MATH

CLASS-1

1. What is the number after 8?
A) 6 B) 7 C) 9 D) 10
2. What is $3 + 4$?
A) 5 B) 6 C) 7 D) 8
3. If you have 2 pencils and you get 3 more, how many pencils do you have now?
A) 4 B) 5 C) 6 D) 7
4. What is $10 - 6$?
A) 2 B) 3 C) 4 D) 5
5. If you have 7 cookies and you eat 2, how many cookies are left?
A) 3 B) 4 C) 5 D) 6
6. Which number is smaller: 5 or 8?
A) 3 B) 6 C) 7 D) 5
7. Is 9 greater than or less than 12?
A) Greater B) Less C) Equal D) Not sure
8. Which object is likely to be the heaviest: a feather, a book, a pencil, or a coin?
A) Feather B) Book C) Pencil D) Coin
9. If the clock shows 1 o'clock, what time will it be 3 hours later?
A) 2 o'clock B) 4 o'clock C) 5 o'clock D) 6 o'clock

10. Which coin is worth the most: a penny, a nickel, a dime, or a quarter?

A) Penny B) Nickel C) Dime D) Quarter

1	2	3	4	5	6	7	8	9	10
C	C	B	D	B	D	B	B	B	D

CLASS-2

1. What is the number after 29?
A) 28 B) 30 C) 31 D) 32
2. Which number is the largest: 45, 34, or 56?
A) 45 B) 34 C) 56 D) 33
3. What is $12 + 7$?
A) 18 B) 19 C) 20 D) 21
4. If you have 9 apples and you get 5 more, how many apples do you have in total?
A) 13 B) 14 C) 15 D) 16
5. What is $18 - 9$?
A) 8 B) 9 C) 10 D) 11
6. If you have 15 pencils and you give away 4, how many pencils are left?
A) 10 B) 11 C) 12 D) 13
7. What is 3×4 ?
A) 7 B) 10 C) 12 D) 14
8. If you have 5 groups of 2 apples each, how many apples do you have in total?
A) 8 B) 9 C) 10 D) 11
9. What is $16 \div 4$?
A) 2 B) 3 C) 4 D) 5

10.If you have 20 candies and you share them equally with 5 friends, how many candies does each friend get?

A) 2 B) 3 C) 4 D) 5

1	2	3	4	5	6	7	8	9	10
B	C	B	A	C	B	C	C	C	D

Maths

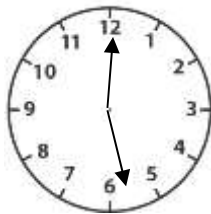
Class - 3

1. 4 thousand + greatest 2 digit number is
a. 4099 b. 4999 c. 4090 d. 4010
2. A grocer sells 50 apples and 29 oranges. How many fruits does he sell in all ?
a. 79 b. 59 c. 25 d. 40
3. The Quotient of $0 \div 25$ is,,,,,,,,,
a. 0 b. 25 c. 1 d. 40
4. Dividend =X Quotient + Remainder
a. Dividend b. Divisor c. Division d. None
5. Subtract 6 8 5 8
 - 3 0 5 2
a. 3940 b. 3621 c. 4132 d. 3806
6. The population of a village is 5390. out of them 3115 are males.
Find the population of females?
a. 3131 b. 4101 c. 2101 d. 2275
7. There are 200 fish in each tank. How many fishes are there in 4 tanks?
a. 8000 b. 800 c. 600 d. 400
8. What is the product of the face value and its place value of 3 in 4983?
a. 9 b. 4 c. 5 d. 6
9. What is the product that we get, if we multiply 0 by any number?
a. 1 b. 0 c. same d. none
10. Fill in correct number () x 8 = 64
a. 8 b. 9 c. 6 d. 8
11. Vivek has 56 ten rupee notes. How much money does he have?
a. 506 b. 5600 c. 56 d. 560
12. If there are 200 ducks in 5 ponds. How many ducks are there in one pond.
a. 4 b. 20 c. 40 d. 80
13. Decade is the name for
a. 10 years b. 100 years c. 101 years d. 1000 years

14. Tick the correct fraction for the given picture



- a. $\frac{5}{7}$ b. $\frac{3}{7}$ c. $\frac{6}{7}$ d. $\frac{4}{7}$
15. Find the missing denominator $\frac{3}{5} - \frac{12}{x}$?
- a. 20 b. 25 c. 15 d. 10
16. Raj has 26 toffee. He gave one - half to his friend. How many toffee did he give to his friend?
- a. 20 b. 40 c. 13 d. 201
17. Akhil is running in a race that is 5km long. He has completed 2km of race. How many meters has Akhil run so far?
- a. 2000m b. 3000m c. 2500m d. 4000m
18. How many centimeter are there in one meter?
- a. 1000 b. 10 c. 200 d. 100
19. The school principal has planned a cultural programme for the time shown on the clock below. At what time the programme is planned?



- a. 12:06 b. 12:28 c. 1:29 d. 12:10
20. How many days are there in February 2004 ?
- a. 30 b. 31 c. 29 d. 28

KEY

1	2	3	4	5	6	7	8	9	10
a	a	a	b	D	d	b	A	b	A
11	12	13	14	15	16	17	18	19	20
d	c	a	b	A	c	a	D	b	C

13. John took 1h 35 min to drive from town A to town B. Jason started from town A at the same time but arrived in town B 38 min later. How long did Jason take to drive from town A to town B ?
- a. 2 hours 18 min b. 2 hours 13 min c. 2 hours 15 min d. 1 hours 18 min
14. You are going on holiday for 3 weeks starting on the 11th Nov which is Thursday. What day do you come back on ?
- a. Wednesday b. Thursday c. Friday d. Saturday
15. A rod is 5 meter long, find its length in cm.
- a. 50 cm b. 500 cm c. 0.005 cm d. 58 cm
16. For measuring mass, _____ unit is used.
- a. meter b. liter c. kilogram d. second
17. Which of the following is an old method of measuring length?
- a. Cubit b. hand span c. stride d. all
18. If all the angles of a triangle are acute, the triangle is known as.....
- a. acute angled triangle b. equiangular triangle
- c. Both A & B d. None
19. Which one of the following properties a rectangle does not process?
- a. Sum of all the angles of rectangle is 360
- b. Each angle of rectangle is right angle
- c. All sides of rectangle are equal
- d. Opposite sides of rectangle are equal
20. In which one of the following groups would you like to place the angle which measures 75° ?
- a. Acute angle b. Obtuse angles c. Right angles d. Straight angles

1	2	3	4	5	6	7	8	9	10
c	d	a	A	A	b	b	c	b	B
11	12	13	14	15	16	17	18	19	20
c	a	b	B	B	c	d	a	c	A

Maths Genie

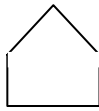
Class - 5

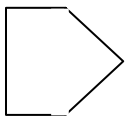
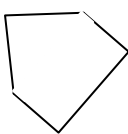
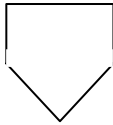
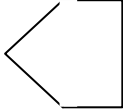
1. Greatest 7 digit number is.....
 - a. 9999999
 - b. 1000000
 - c. 9989999
 - d. 9999998
2. Find the sum of the greatest 8 digit numbers and the smallest 9 digit number.
 - a. 1,99,99,999
 - b. 19,99,99,999
 - c. 99,99,99,999
 - d. 1,00,00,999
3. The digits 6,0,3,7,6 and 9 are arranged to form the greatest possible 6 digit odd number. Find the difference in value of two digits.
 - a. 5400
 - b. 540
 - c. 54600
 - d. 54000
4. Which of the following shows the commutative property of addition ?
 - a. $5+4=5+4$
 - b. $1+(4+7) = (1+4)+7$
 - c. $6+1 = 7$
 - d. $8+4=4+8$
5. If $4a + 3 = 15$, then the value of $2a$ is
 - a. 9
 - b. 3
 - c. 6
 - d. 5
6. If there are 5000 Mangoes in 100 boxes, how many Mangoes will be there in 75 boxes
 - a. 3570
 - b. 3750
 - c. 4000
 - d. 2750
7. $96/2 = 48$ is not equivalent to
 - a. 2×24
 - b. 4×12
 - c. 8×6
 - d. 7×8
8. Use the multiplication operation and evaluate the following .

- a. $\frac{45}{28}$
 - b. $\frac{28}{45}$
 - c. $\frac{35}{36}$
 - d. $\frac{35}{35}$

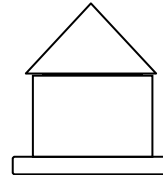
$\frac{7}{9} \times \frac{4}{5}$
9. Solve the following using the correct order of operations: $1+3 \times 8 \div 2$
 - a. 15
 - b. 5
 - c. 13
 - d. 17
10. Solve the word problem based on the operations on numbers. Tamana bikes 2.2 km each School day. In total, how far will Tamana bike over 10 school days?
 - a. 2.2
 - b. 22
 - c. 20
 - d. 22.20
11. Average age of A, B and C is 10 years. If the average age of A and C is 9 years, then how many years old is B?
 - a. 9
 - b. 10
 - c. 11
 - d. 12

12. The shape below is rotated in counter clockwise direction. Which of the following shows figure A after $\frac{1}{4}$ turn?

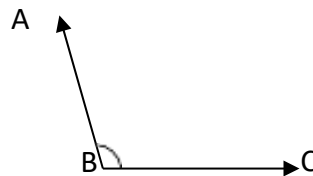


- a.  b.  c.  d. 

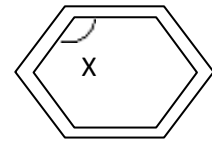
13. How many lines of symmetry does the figure A have?



- a. 1 b. 2 c. 3 d. 4
14. What type of angle is shown below?



- a. acute angle b. obtuse angle c. right angle d. None of these
15. Richa and Reena share a room that is regular hexagon in shape. What type of angle is it?



- a. acute angle b. obtuse angle c. right angle d. None

16. Instrumental used to measure the blood pressure is

- a. Protractor b. Sphygmomanometer
c. Thermometer d. Hygrometer

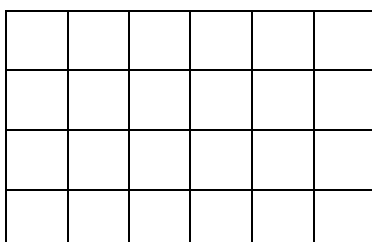
17. Tank 'A' contains 6 times as much as water as tank 'B' How much water must Mohan transfer from tank A to Tank B, So that each tank contains 70 litres of water ?

- a. 50 lit b. 60 lit c. 75 lit d. 120 lit

18. Julie has Rs. 61.50 to buy lunch. If she buys a burger that costs Rs.42.75, how much money is left with her ?

- a. Rs.14.75 b. Rs.15 c. Rs.16.25 d. Rs.18.75

19. Calculate the areas of rectangle, if one square represents an area of 1 cm²



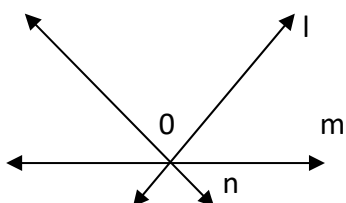
- a. 2 cm² b. 9 cm²
c. 50 cm² d. 24 cm²

20. The third side of the triangle if the parimeter of a triangle is 20m and two of its sides are 5m and 4m is
- a. 11m b. 10m c. 12m d. 5m

1	2	3	4	5	6	7	8	9	10
a	B	a	d	c	b	d	b	c	B
11	12	13	14	15	16	17	18	19	20
d	D	a	b	b	b	a	d	d	A

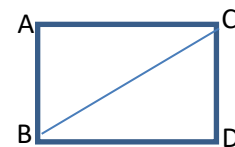
Maths
Class - 6

1. How many times the digit "3" appears in numbers from 1 - 100?
a. 18 b. 19 c. 20 d. 21
2. The whole number which does not have predecessor is.....
a. 100 b. 0 c. 1 d. 9
3. What least number should be added to 1330 to get a number exactly divisible by 43?
a. 46 b. 1 c. 3 d. 7
4. The product of two odd number is.....
a. an even number b. an odd number
c. cannot be determined d. None of these
5. How many natural numbers are there between 1 and 10?
a. 6 b. 7 c. 8 d. 9
6. What is the additive identify element of 24?
a. $\frac{1}{24}$ b. 1 c. 0 d. 24
7. $6(7 \times 3) = (6 \times 7) \times 3$ is an example of which property with respect to multiplication?
a. Associative property b. Closure property
c. Commutative property d. Distributive property
8. Which of the following is the zero property of addition?
a. $13 \times 0 = 0$ b. $13 + 0 = 13$ c. $13 \div 13 = 1$ d. $0 + 13 = 0$
9. Which of the following is the LCM of 36 and 79?
a. 36 b. 72 c. 108 d. 2
10. What do you get when you multiply two factors ?
a. sum b. product c. difference d. quotient
11. A is 5th prime number. B is 7th prime number. What is BA?
a. 6 b. 8 c. 12 d. 2
12. A line segment passing through the center of circle and whose end points lie on the circle is called _____
a. Diameter b. Radius c. Sector d. None
13. In the given figure, lines l, m & n are called _____ lines.

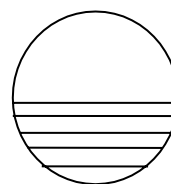


- a. collinear b. parallel
c. concurrent d. transversal

14. Which of the following statements is INCORRECT?
- Line \overline{AB} is same as line \overline{BA}
 - Line segment \overline{AB} is same as line segment \overline{BA}
 - Ray \overline{AB} is the same as ray \overline{BA}
 - \overline{AB} perpendicular to CD is same as CD perpendicular to AB .



15. In the given figure, there are _____ angles
- 4
 - 8
 - 6
 - 10
16. What are the integers between - 3 and 3?
- 4, - 5, 4 and 5
 - 2, - 1, 0, 1 and 2
 - 3, 4, 5, 6 and 7
 - 3, -2, -1, 2 and - 15
17. Which of the following lies between the integers -603 and - 317?
- 450
 - 680
 - 315
 - 630
18. A girl uses a ruler to measure the length of a table in her room. She placed the ruler such that the mark 3.0 cm coincides with one end and the other end coincides with the mark 33.5 cm. The length of the table is _____ cm
- 33.5
 - 36.5
 - 33.8
 - 30.5
19. A simple method for measuring diameter of a sphere.
- Place the sphere between two note books. Keep the scale across and read the distance between the two books on the rules accurately.
 - Place the sphere between two blocks in contact with a ruler as shown in figure above and read the distance between the two blocks on the ruler accurately.
 - Take a string and wind it closely around the sphere. Then measure the length of the string.
 - We cannot measure the diameter of the sphere.
20. The fraction representing the shaded portion is



- $\frac{1}{4}$
- $\frac{1}{2}$
- $\frac{1}{3}$
- $\frac{1}{8}$

1	2	3	4	5	6	7	8	9	10
c	b	c	b	C	c	a	b	b	B
11	12	13	14	15	16	17	18	19	20
a	a	c	c	C	b	a	d	b	b

Maths

Class - 7

1. The sum of two integers is -112, if one of them is -109 the other is
a. -121 b. -3 c. 3 d. none
2. A place is 45 meter above sea level and another place is 23 meter below sea level. What is the difference of level in meter between the two places?
a. 68 b. 20 c. 60 d. -20
3. The difference of sum of even numbers and sum of odd numbers between 10 and 20 is.....
a. 3 b. 6 c. 15 d. 4
4. Amala ate $\frac{3}{5}$ of an orange. The remaining orange was eaten by Meenu. What part of the orange was eaten by Meenu ?
a. $\frac{1}{5}$ b. $\frac{2}{5}$ c. $\frac{3}{5}$ d. none
5. Manish worked for $\frac{1}{2}$ an hour. Yash worked for $\frac{1}{4}$ hour. For how much time did both work together?
a. 1 hour b. $\frac{3}{4}$ c. $\frac{5}{4}$ d. $\frac{3}{2}$
6. The length of a rectangular sheet of paper is $\frac{3}{5}$ cm and the breath $\frac{2}{5}$ cm. What is the perimeter of the paper ?
a. 1cm b. 2 cm c. 3 cm d. 4 cm
7. Write the following statement in the form of an equation. One fourth of n is 3 more than 2
a. $\frac{n}{4} - 2 = 3$ b. $\frac{n}{4} + 2 = 3$ c. $\frac{n}{2} - 4 = 3$ d. $\frac{n}{2} + 4 = 3$
8. Write the following statements in the form of an equation. Add 1 to three times n to get 7.
a. $3n+1 = 7$ b. $3n-1 = 7$ c. $3n+7=1$ d. None of these
9. The solution of the equation $x + 3 = 0$ is
a. 3 b. -3 c. 0 d. 1
10. Which of the following statements is true?
a. Two acute angles can be complementary to each other.
b. Two obtuse angles can be complementary to each other.

- c. Two right angles can be complementary to each other.
- d. One obtuse angle and one acute angle can be complementary to each other.
11. The measure of the complement of the angle 46° is
- a. 90° b. 46° c. 16° d. 136°
12. When the sum of the measures of two angles is 180° the angles are called
- a. adjacent angles b. complementary angles
- c. vertically opp angles d. supplementary angles
13. Which of the following statements is true?
- a. A triangle can have two right angles
- b. A triangle can have two obtuse angles
- c. A triangle can have two acute angles
- d. A triangle can have all the three angles less than 60°
14. If two angles of a triangle measure 90° and 30° then measure of the third angle is a. 90° b. 30° c. 60° d. 120°
15. The ratio of the measures of the three angles of a triangle is 2:3:4. The measure of the largest angle is
- a. 80° b. 160° c. 40° d. 180°
16. If $\triangle ABC = \triangle PQR$, then \overline{AB} corresponds is
- a. \overline{PQ} b. \overline{QR} c. \overline{RP} d. None of these
17. We want to show that $\triangle ART = \triangle PEN$ and we have to use see criterion. We have $AR = PE$ and $RT = EN$. What more we need to show?
- a. $AT = PN$ b. $AT = PE$ c. $AT = EN$ d. None of these
18. The ages of father and son are 45 years and 10 years. The ratio of their ages is
- a. 3 : 2 b. 5:2 c. 9 : 2 d. 15:2
19. It motorcycle goes 120km with 3l of petrol. How much petrol will be required to go 600 km?
- a. 10l b. 12l c. 15l d. 20l
20. Which of the following rational numbers is not to equivalent to $\frac{3}{5}$?
- a. $\frac{6}{10}$ b. $\frac{-3}{5}$ c. $\frac{9}{15}$ d. $\frac{15}{24}$

1	2	3	4	5	6	7	8	9	10
b	a	c	b	b	b	a	a	b	A
11	12	13	14	15	16	17	18	19	20
b	d	c	c	a	a	a	c	c	d

Maths Genie

Class - 8

1. Which of the following statements is true?
 - a. Natural numbers are associative for addition
 - b. Whole numbers are associative for addition
 - c. Integers are not associative for addition
 - d. Rational numbers are not associative for addition
2. The multiplicative inverse of $\frac{1}{2}$ is.....
 - a. 1
 - b. -1
 - c. 2
 - d. 0
3. If a & b are two rational numbers, then
 - a. $\frac{a+b}{2} < a$
 - b. $\frac{a+b}{2} < b$
 - c. $\frac{a+b}{2} = a$
 - d. $\frac{a+b}{2} > b$
4. A number when subtracted from 40 results into 15. Write this statement in the form of an equation.
 - a. $40 - x = 15$
 - b. $x - 40 = 15$
 - c. $40 + x = 15$
 - d. $40x = 15$
5. The root of the equation $2x+3 = 2(x-4)$ is.....
 - a. 2
 - b. 4
 - c. 0
 - d. does not exist
6. If two angles are complementary and one angle is 10° greater than the other, then the smaller angle of the two is.....
 - a. 40°
 - b. 50°
 - c. 90°
 - d. 180°
7. The angle of sum of a convex polygon with number of sides 8 is
 - a. 720°
 - b. 900°
 - c. 1080°
 - d. 1440°
8. The angle sum of a convex polygon with n number of sides is
 - a. $(n - 2) 180^\circ$
 - b. $(n+2) 180^\circ$
 - c. $(2n-4) 180^\circ$
 - d. $(2n+4) 180^\circ$
9. The measures of two angles of a quadrilateral are 110° and 100° . The remaining two angles are equal. The measure of each of the remaining two angles is.....
 - a. 30°
 - b. 60°
 - c. 75°
 - d. 45°
10. Minimum possible interior angles in a regular polygon is _____
 - a. 70°
 - b. 60°
 - c. 90°
 - d. 120°
11. The diagonal of a rhombus bisect each other at _____ angle.
 - a. acute
 - b. right
 - c. obtuse
 - d. reflex

12. What will be the number of zeros in the square of the number 50?
 a. 1 b. 2 c. 3 d. 4
13. How many no square numbers lie between the pair of numbers 80^2 and 81^2 ?
 a. 162 b. 160 c. 161 d. 164
14. Express 9^2 as the sum of two consecutive integers.
 a. $40 + 41$ b. $50 + 31$ c. $36 + 45$ d. $72 + 9$
15. What is the one's digit in cube root of the cube number 2744?
 a. 1 b. 2 c. 3 d. 4
16. Find the smallest number by which the number 108 must be multiplied to obtain a perfect cube.
 a. 2 b. 3 c. 4 d. 5
17. The volume of cube is 64 cm^3 . The edge of the cube is?
 a. 4 cm b. 8 cm c. 16 cm d. 6 cm
18. The value of $x^2 - 2yx + y^2$ when $x = 1$, $y = 2$ is
 a. -1 b. +1 c. 2 d. -2
19. Which of the following is a trinomial?
 a. $-7z$ b. $z^2 - 4y^2$ c. $x^2y - xy^2 + y^2$ d. $12a - 9ab + 5b - 2$
20. How many terms are there in the expression $7x^2 + 5x - 5$?
 a. 1 b. 2 c. 3 d. 5

1	2	3	4	5	6	7	8	9	10
a	c	b	a	d	a	c	a	c	b
11	12	13	14	15	16	17	18	19	20
b	b	b	a	d	a	a	b	c	c

Maths

Class - 9

1. The value which is equal to $4\sqrt{3^2 \sqrt{2}}$
 - a. $2^{-1/6}$
 - b. 2^{-6}
 - c. $2^{1/6}$
 - d. 2^6
2. Simplified value of $(16)^{-1/4} \times \sqrt[4]{16}$ is
 - a. 16
 - b. 4
 - c. 1
 - d. 0
3. Find the value of $\sqrt[3]{216} - \sqrt[3]{125}$ is
 - a. 1
 - b. -1
 - c. $\sqrt[3]{91}$
 - d. $\frac{6}{5}$
4. Find the product of $(x - \frac{1}{x})(x + \frac{1}{x})(x^2 + \frac{1}{x^2})$
 - a. $x^4 + \frac{1}{x^4}$
 - b. $x^3 + \frac{1}{x^3} - 2$
 - c. $x^4 - \frac{1}{x^4}$
 - d. $x^2 + \frac{1}{x^2} + 2$
5. If $\frac{x}{y} + \frac{y}{x} = -1$ ($x, y \neq 0$), then find the value of $x^3 - y^3$
 - a. 1
 - b. -1
 - c. $\frac{1}{2}$
 - d. 0
6. One of the factors of $(x^3 - 1) - (x - 1)$ is
 - a. $x^2 + 1$
 - b. $x^2 - 1$
 - c. $x - 1$
 - d. $x + 4$
7. Find the value of K if $x^2 + kx + 6 = (x+2)(x+3)$ for all k
 - a. 1
 - b. -1
 - c. 5
 - d. 3
8. The mirror image of the point (-3, 4) in x - axis is
 - a. (-4, -3)
 - b. (3, -4)
 - c. (3, 4)
 - d. (-3, -4)
9. In which quadrant does the point (-1, 2) lies?
 - a. first quadrant
 - b. second quadrant
 - c. third quadrant
 - d. fourth quadrant
10. The point M lies in the N quadrant. The coordinates of point M are
 - a. (a, b)
 - b. (-a, b)
 - c. (a, -b)
 - d. (-a, -b)

11. Any point on the line $y = 3x$ is of form

- a. $(a, 3a)$ b. $(3a, a)$ c. $(a, \frac{a}{3})$ d. $(\frac{a}{3}, -a)$

12. Graph of linear equation $ax+by+c=0$, $a \neq 0$, $b \neq 0$ cuts x axis and y axis respectively at points.

- a. $(-\frac{c}{a}, 0)$ $(0, -\frac{c}{b})$ b. $(0, \frac{-c}{b}, 0), (\frac{-c}{a}, 0)$ 5
c. $(-c, 0), (0, -c)$ d. $(x, 0) (y, 0)$

13. Which of the following ordered pairs is a solution of the equation $x-2y=b$?

- a. $(2, 4)$ b. $(0, 3)$ c. $(-4, 1)$ d. $(4, -1)$

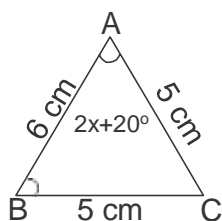
14. If $(x+2, 4) = (5, y-2)$, then coordinates (x, y) are

- a. $(7, 12)$ b. $(6, 3)$ c. $(3, 6)$ d. $(2, 1)$

15. The coordinates of the point which lies on y - axis at a distance of 4 units in negative direction of y - axis is

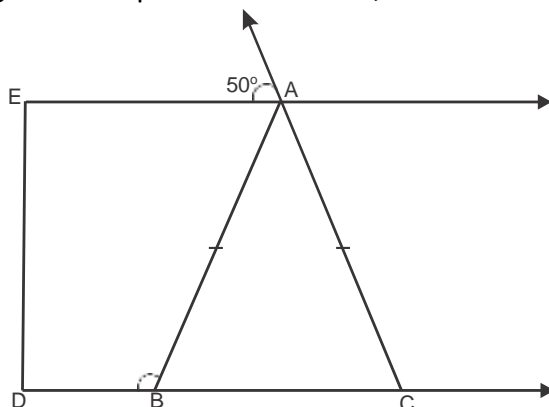
- a. $(5, 4)$ b. $(4, 0)$ c. $(0, -4)$ d. $(-4, 0)$

16. In the given figure measure of angle BAC is



- a. 60° b. 50° c. 70° d. 80°

17. In the figure if $AE \parallel DC$ and $AB = AC$, find the value of $\angle ABC$



- a. 130° b. 110° c. 120° d. 70°

18. In $\triangle ABC$, $\angle C = \angle A$ and $BC = 4$ cm and $AC = 5$ cm then find length of AB
- a. 5 cm b. 3 cm c. 4 cm d. 2.5 cm
19. A diagonal of a rectangle is inclined to one side of the rectangle at 25° , the acute angle between the diagonals is
- a. 55° b. 50° c. 40° d. 25°
20. ABCD is a rhombus such that $\angle ABC = 40^\circ$, then $\angle ADC$ is equal to
- a. 40° b. 45° c. 50° d. 20°

1	2	3	4	5	6	7	8	9	10
c	c	a	c	d	c	c	d	b	c
11	12	13	14	15	16	17	18	19	20
a	a	d	c	c	b	a	c	d	a