SAT Duplicate Questions

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If 5+a is 3 more than 5, what is the value of 5a?

- **1** -3
- **2** 3
- **3** 6
- **4** 15
- **3**0

correct:4

Tags:Arithmetic, basic operation

The result when a number is divided by 5 is the same as when the number is divided by 7. what is the number?

- **1** -7
- **2** 7
- **3** 0
- **4** 5
- **5** 7

correct:3

Tags:Arithmetic, Divisibility

on the above image, if the page is folded along the dotted line, the left half of the letter **M** would exactly coincide with the right half of the letter. which of the following letters CANNOT be folded along a vertical line so that its left half would coincide with the right half?

- 4
- 2 T
- 3 V
- 4 K
- **6** H

correct·4

Tags:Geometry, Reflection Difficulty:2



Image not drawn to scale

In the figure above, line m and line n intersect each other at point O. if x = 130 and y = 60, what is the value of z?

- **1** 60
- **2** 70
- 100
- 4 130
- **190**

correct:2

Tags:Geometry, Angles

Difficulty:1



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Х	у
-2	1
0	5
2	9
5	15

which of the following equations is satisfied by the four pairs of numbers listed in the table above?

$$y = x^2 + 5$$

②
$$y = 5 - x^2$$

$$y = x|x| + 5$$

$$y = 2x + 5$$

$$y = 5 - 2x$$

correct:4

Tags:Algebra, Straight Line





Grades of students in a class

Above pie diagram shows the percent of students in a class receiving different grades in a particular exam. If 2 students got grade A how many students got grade C?

- **4**0
- **2**0
- **3** 16
- **4** 8
- **5**

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If a and b are positive integers and $4^a = 8^b$, what is the value of $\frac{a}{b}$?

- $0 \frac{1}{3}$
- $\frac{1}{2}$
- $\frac{3}{3}$
- **4** 1
- $\frac{3}{2}$

correct:5

Tags:Algebra, Indices, Ratio

The printed price of a laptop is \$480. Shop A sells the laptop at 30% less than the printed price. Shop B sells the product at 20% less than the printed price, but gives a further 10% discount on the selling price. How much money can Sam save by buying the laptop in shop A instead of buying it in shop B?

- **1** \$0
- **4.8**
- **9** \$9.6
- **9** \$28.9
- \$48.0

correct:2

Tags:Arithmetic, percent

Difficulty:2

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if the function f is defined as f(x) = 4x + 5 the 2f(x) + 5 = ?

- 0 2x + 5
- 2x + 10
- 8x + 5
- 9 8x + 10
- 6x + 13

correct:5

Tags:Algebra, functions

Two sides of a triangle are given to be 4cm and 5cm. what is the maximum possible area of the triangle?

- $0 4cm^2$
- \bigcirc 6cm²
- \odot $10cm^2$
- \bigcirc 12cm²
- **3** 20*cm*²

correct:3

Tags: Geometry, Triangle, Area

the girls and boys ratio in a class is 3 to 2. If there are 55 students in the class, how many boys are there?

- **1**1
- **2**2
- **3**3
- **4**4
- **5**5

correct:3

Tags:Arithmetic, Ratio

If x is chosen at random from first 25 positive integers, what is the probability that 3x+8 <= 33

- **1**
- $\frac{11}{25}$
- $\frac{1}{11}$
- $\frac{1}{25}$
- frac133

correct:2

Tags:Algebra, Inequality, probability

If t is a positive integer, then how big is t^3 than t?

- **1**
- 2 t
- \circ t^2
- 0 t(t+1)(t-1)
- \circ t^3

correct:4

Tags:Algebra, factorization

A hemispherical bowl has radius 3 cm. what is the linear distance of the bottom most point from the rim?

- 3cm
- $3\sqrt{2}cm$
- **1**8cm

correct:3

Tags:Geometry, Pythagoras' Theorem, sphere

If x and y are positive integers with x > y > 0 such that $x^2 - y^2 = 24$ what of the following are possible values of x + y?

- I. 6
- II. 8
- III. 10
 - only I
 - only II
 - only III
 - I and III
 - I, II and III

correct:3

Tags:Arithmetic, Factorization, number Properties Difficulty:3

- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

- 1
- 2
- 4
- 5

correct:

Tags:

- 1
- 2
- (5)
- 4
- 5

correct:

Tags:

If a and b are positive integers, which of the following are equivalent to $(3a)^{6y} + (3a)^{2y}$?

- $(3a)^{2y}((3a)^{4y}+1)$
- $(3a)^{2y}((3a)^31+)$
- $(3a)^{8y}$
- $((3a)^3 + (3a))^{2y}$
- $((3a)^{6y})^{2y}$

correct:1

Tags:Algebra, indices



x, y and x are three consecutive positive odd numbers. if the units digit of xz is 7, what is the units digit of y?

- **1**
- **2** 3
- **3** 5
- **4** 7
- **6** 9

correct:1

Tags:Arithmetic, Number properties

$$3, 17, 31, \cdots$$

In the sequence above, the first term is 3 and each subsequent term is 14 more than the previous term. what will be the 14th term of the sequence?

- 17
- **2** 182
- **3** 185
- **4** 196
- **199**

correct:3

Tags:Arithmetic, basic poperations, sequence

if $(x-3)^2 = 36$ which of the following is a possible value of x?

- **1** -9
- **2** -6
- **3** -3
- 4
- **6**

correct:3

Tags:Algebra, Indices, Number properties

If the average of a and b is 25 and the average of x and y is 25, what is the average of a, b, x and y?

- 0 6.25
- **2** 12.5
- **3** 25
- **4** 50
- **100**

correct:3

Tags:Arithmetic, average

Every worker of Office A knows how to play chess

Assuming the above statement is true, which of the following must be TRUE?

- If Mark knows how to play chess, then he is a worker of office A
- 2 If Bill doesn't work in office A, then he knows how to play chess
- 3 If Sam doesn't work in office A, then he knows how to play Chess
- If Rosaline doesn't know how to play chess, then she doesn't work in office A.
- If Jacob doesn't know how to play chess, then he works in office A.

correct:D

Tags: Data Analysis, Set theory(???), Logic



In the image above O is the centre of the circle and PQ is a radius. If $\angle OPR = 50^{\circ}$, what is the value of $\angle QRO$?

- 10°
- 20°
- 40°
- 50°
- **60**°

correct:3

Tags:Geometry, Angles and Triangles, Circle Difficulty:3

which of the following is equal to $\left(xz + \frac{n}{y}\right)$

correct:1

Tags: Algebra, Factorization

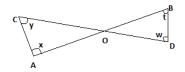


Image not to the scale

In the diagram above if $w=60^{\circ}$, $t=50^{\circ}$ and $y=40^{\circ}$ what is the value of x?

- **1** 40°
- **2** 50°
- **6**0°
- 4 70°
- **⑤** 80°

correct:4

Tags:Geometry, Angles and Triangles

Difficulty:3

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- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

A train went from station A to station B in 20 minute and from station B to station C in 35 minute. If the distance from A to B is 6km and the train had a uniform speed all through the journey, what is the distance from A to C?

- **1**4.5Km
- **2** 10.5Km
- 6Km
- 4.5Km
- 3Km

correct:1

Tags:Arithmetic, Rate and distance



If
$$(3a)b=6$$
, $5(ab)=?$

- **1** 30
- **2** 15
- **3** 10
- **4** 6
- **5** 2

correct:3

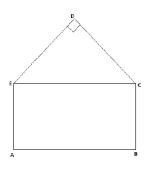
Tags: A rith metic

If 6 times a number is $\frac{3}{5}$, what is the number?

- $\frac{1}{30}$
- $\frac{1}{10}$
- 3
- 4 1
- **5** $\frac{3}{6}$

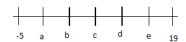
correct:2

Tags:Arithmetic, Basic Number Operations Difficulty:1



In the diagram above $\triangle CED$ is a right angled triangle of area 8 and $\square ABCD$ is a rectangle of area 12. what is the perimeter of the polygon ABCDE?

- **1**4
- **2** $4 + 4\sqrt{2}$
- 3 $18 + 4\sqrt{2}$
- $0 10\sqrt{2}$



The points on the above number lines are equidistant. which of the numbers has minimum absolute value?

- 1 a
- 2 b
- 6 c
- d
- **6** e

correct:1

Tags:Arithmetic, Number Property



if x is the unique median of these numbers, what is the possible value of x?

- **1** 7
- **2** 11
- **3** 12
- **1**3
- **1**4

correct:4

Tags:Statistics, Median

Two circles of radius 13cm and 15cm intersect each other at P and Q. R and S are two poinds on the circumference of first and 2nd circle respectively. If PQ=24cm, what is the maximum possible length of RS?

- 42cm
- 24cm
- **3** 15cm
- 4 14cm
- 13cm

correct:1

Tags:Geometry, Circles

Average per-day salary of Alice and Jane

	Jan	Feb	Mar
Alice	20	35	25
Jane	15	20	30

No of working Days		
month	working days	
Jan	23	
Feb	20	
Mar	21	

The above two tables show the average per day salary in \$ of Alice and Jane in the first three months of a year and the no. of working days in those months. Then, what was Jane's total income in \$ in those 3 months?

- **3060**
- **2** 1685

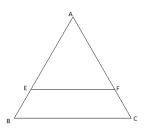


Image not drawn to scale

In the image above, $\triangle ABC$ is a equilateral triangle. E and F are the mid point of AB and AC respectively. If AB=4cm, EF=?

- 4cm
- 3cm
- 2cm
- 4 1cm
- Cant be determined from the information given

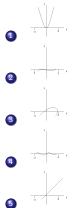
- 4日 > 4個 > 4 種 > 4種 > 種 > 種 の Q (で

- 1
- 2
- 4
- 5

correct:

Tags:

Which of the following functions has exactly 3 roots in (-3,3) region?



correct:2

Tags:Algebra, functions, graph



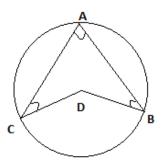


figure not to scale

In the above figure, $\angle CAB = 40^{\circ}$, $\angle ACD = \angle ABD = 30^{\circ}$. $\angle CDB$ (outside the quadrilateral)=?

- 60°
- **2** 80°
- 100°

if x and y are integers with 5 < y < 15 such that $\frac{x}{y} = \frac{3}{7}$ then how many different values of x are possible?

- **1**
- **2** 2
- **3**
- **4**
- **6**

correct:2

Tags:Arithmetic, ratio, Basic operations

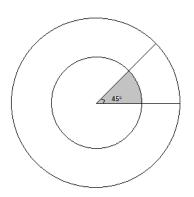


Image not drawn to scale

In the diagram above, the two circles have same centre and the radius of the inner circle is 1/3rd of that of the outer circle. If the outer circle has area 144 sq.cm, what is the area of the shaded region?



Which of the following straight lines does the above graph represent?

$$y = 10x - 130$$

$$y = 13x - 130$$

$$y = 13x + 130$$

$$y = 130 - 13x$$

correct:5

Tags:ALgebra, Straight line



Let #x denote $x^2 - 2x$. Let #x = c for some integer x. wwhich of the following is not a possible value of c?

- **1** -1
- **2** 0
- **3**
- **4** 6
- **6** 8

correct:4

Tags:Algebra, Factorization

If $5 \times 10^n = 500,000$, what is the value of n?

- **1**
- **2**
- **3**
- **4**
- **5**

correct:5

Tags:Arithmetic, basic operations, indices Difficulty:1

Sarah's wage is x per week, John's wage is 10 more than Sarah's wage, Mathew's wage is three times of Jhon's wage. what is Mathew's wage per week, in terms of x?

- 0 3x + 10
- 3x + 30
- 3x 30

correct:3

Tags: Arithmetic, Basic operations

If both x and y are natural numbers what are the possible solutions of the equation 3x+4y=17?

- **1** Only (2,3)
- only(3,2)
- only(2,2)
- **1** (2,2) and (3,2)
- **1** (2,2) and (2,3)

correct:2

Tags:Arithmetic, Number properties

If the relation between total distance covered in meter(s) and the time of travel in second(t) of a bullet train is given by $s = 5t + 8t^2$, how much distance will it cover in 12 second?

- **144**m
- 204m
- **3** 156m
- 4 1152m
- 1212m

correct:5

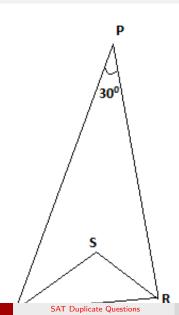
Tags:Arithmetic, Basic Operations

What is the arithmetic mean of 9 - 3x, 9 and 9 + 3x?

- **1** 3
- 9
- **3** 9+x
- **3**+x
- **3**-x

correct:2

Tags:Arithmetic, Average



A special Industrial fuel is made by mixing Gasolin, Methyl alcohol and ethanol in the ratio of 3:5:2. what fraction of the fuel is methanol?

- $0 \frac{3}{5}$
- $\frac{2}{5}$
- $\frac{3}{10}$
- $\frac{2}{8}$
- $\frac{1}{5}$

correct:5

Tags:Arithmetic, Fraction and Ratio

in the diagram above, the square ABCD is inscribed in the circle with centre O. If AO=1cm, what is the length of the arc \widehat{AB} ?

- $\mathbf{0}$ 2π cm
- 2π cm
- $\frac{\pi}{3}$ cm
- $\frac{\pi}{4}$ cm

correct:3

Tags:Geometry, Circle, Perimeter

If A is a subset of B, which of the following Can't be true?

- 1 If a is in A, then a is in B
- 2 If b is not in B, b is not in A
- 3 c is not in A but in B
- d is in B but not in A
- e is neither in A nor in B

correct:4

Tags:Statistics and data analysis, Set Difficulty:3

min how many tiles of length 3 cm and width 2 cm is required to pave a region of length 6 cm and width 5 cm?

- **1** 4
- **2** 5
- **6**
- **4** 7
- Its not possible to pave the area using the given tiles

correct:2

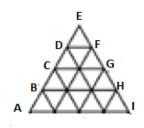
Tags: Geometry, quadrilateral, area

FOr some $c \neq 0$, $\frac{3}{x} = \frac{3-a}{x-a}$. what is the possible valu of x?

- **1** 0
- **2** 3
- 3 c
- ④ 3-c
- **⑤** 3+c

correct:2

Tags:Arithmetic, basic operations, fraction



In the above diagram $\triangle AEI$ is made of 16 smaller triangle which are congruent to each other. if are of $\triangle CEG$ is 4 sq.cm, what is the area of $\triangle AEI$?

- **1** sq.cm.
- 4 sq.cm.
- **3** 8 sq.cm.
- 9 sq.cm.

$$2x + 6y + 10z = 11$$
$$4x + 21y + 35z = 43$$

If the pair of equations is true, what is the value of 3x + 5y?

- **1** 32
- **2** 21
- **3** 14
- **4** 7
- **5** 3

correct:4

Tags:Algebra, Solving equation



m number of candies are to be distributed among all the children present in a party. there were 6 children attending the party, but one of them left early. How many candies(in terms of m) will each child get extra because of that one child leaving early?

- $\frac{m}{30}$
- $\frac{m}{12}$
- $\frac{m}{6}$
- $\frac{m}{5}$

correct:1

Tags: Arithmetic, Fractions

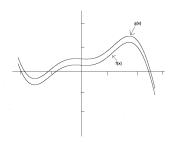
if y = 3x - 5 and x < 3 which of the following shows the possible values of y?

- ① y > 4
- **3** y < -2
- y > -2

correct:2

Tags: Arithmetic, Inequality





The above diagram shows two functions f(x) and g(x) in the region (-2,2) which of the following relations between f(x) and g(x) is possible?

$$g(x) = f(x) + 1$$

2
$$g(x) = f(x+1)$$

$$g(x) = f(x) - 1$$

$$(x) = f(x-1) + 1$$

correct:1



- 1
- 2
- 4
- 5

correct:

Tags:



If a, b, c, d are located on the number line as shown in the above figre, which of the following has maximum value?

- **1** —a+b—
- 2 —a-b—
- **⑤** —a-c—
- **⑤** —b-d—

correct:3

Tags:Arithmetic, Number Properties



Above diagram shows the number of boarders in a hotel in 5 consecutive days. Each unit on the vertical axis represents 10 boarders. If the number of calls decreased by 20% from day 2 to day 3, how many boarders were there in the hotel at day 5?

- **1** 20
- **2** 30
- **3** 40
- **4** 50
- **6**0

correct:30

Tags:Arithmetic, Percent, Graph

Let x * y = xy + x + y + 1. Then which of the following must be true?

$$| x * y = y * x$$

$$|| (x * y) * = x * (y * z)|$$

$$||| (x + y) * z = z * y + y * z|$$

- I only
- Il only
- III only
- I and II
- I, II and III

correct:1

Tags:Algebra, Function, Relations



if a + b = 15 and c(a + b) = 75), what is the value of c?

- **1** 3
- **2** 5
- 3 7
- **4** 15
- **5** 75

correct:2

Tags:Arithmetic, Basic operations

if 10 is subtracted from one third of a number, the result becomes 5. what is the number?

- **4**5
- **2** 30
- **3** 25
- **4** 15
- **5**

correct:1

Tags:Arithmetic, Basi Operations

- 0
- 2
- (3)
- 4
- 5

correct:

Tags:

Difficulty:

68 / 90

Х	у
1	5
2	8.7
3	12.4
4	16.1

Wich of the following equations satisfy all the four points given above?

$$y = 3.7x + 5$$

②
$$y = 5x$$

$$y = 1.3x + 3.7$$

$$y = 3.7x + 1.3$$

$$y = 3x + 2$$

correct:4

Tags:Algebra, Straight line



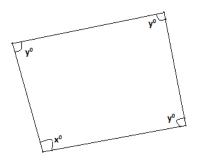


Image not drawn to scale

which of the following is a possible valur=e for x?

- 110
- 2 170
- 290
- **330**
- **9** 390

70 / 90

The minimum and maximum of 7 real numbers is 3 and 15. If 5 be the unique mode and 8 be the median, which of the following is possible value of arithmetic mean of the 7 numbers?

- 7.5
- II 8
- 111 9
- Only I
- Only II
- I and II
- 4 I and III
- I, II and III

correct:5

Tags:Data Analysis



In the XY plane, how many points have 5 unit distance from the point (3,4)?

- None
- **2** 1
- **3** 2
- **4** 3
- more than 3

correct:5

Tags:Geometry, Co-ordinate Geometry, Circle

- 1
- 2
- 4
- 5

correct:

Tags:

If
$$\frac{2}{5}y + 12 = 0$$
 then $y = ?$

- **0** -60
- **2** -30
- **3** -12
- **4** 30
- **6**0

correct:2

Tags:Arithmetic, Basic operations



In the above figure A, B and C lie on the same straight line. C is the centre of the bigger circle and B is the centre of the inner circle. If the radius of the inner circle is 4cm, what is the radius of the outer circle?

- 0 2 cm
- 2 3 cm
- 4 cm
- 6 cm
- 8 cm

correct:5

Tags:Geometry, Circle



Fred used $\frac{3}{5}$ th of the total money he head to buy a new mobile phone. If the phone costs \$360, how much money does Fred have now?

- **1800**
- **2** \$1440
- **\$600**
- **\$240**
- **3** \$200

correct:4

Tags:Arithmetic, fraction

3,5,8,13,21,34

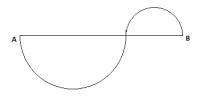
In the above sequence, first term is 3, 2nd term is 5. Which of the following rules gives each successive terms?

- Add 3 to the preceding number
- Oouble the preceding number and subtract 2
- Add the two immediate preceding numbers.
- Add the first number of the sequence to the preceding term
- ullet subtract 1 from the preceding number and then double it

correct:3

Tags: Arithmetic, Basic Operation, sequence





The linear distance from point A to B is 20km. But the only road joining these two points is the one formed by the perimeter of the two semi-circles. WHat is the by-road distance between A and B?

- **1** 40π
- 20π
- \odot 10π
- $\mathbf{4}$ 5π
- **5** π

correct:2

Tags:Geometry, Circle



if
$$x + y = 5$$
 then $\frac{5-x}{y} = ?$

- **1**
- **2** -1
- **3** 0
- 4 y
- **5** x-1

correct:1

Tags:Arithmetic, Basic operation Difficulty:2

- 1
- 2
- **9**
- 4
- 5

correct:

Tags:

- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

- 1
- 2
- (3)
- 4
- 5

correct:

Tags:

- 0
- 2
- (5)
- 4
- 5

correct:

Tags:

- 0
- 2
- (3)
- 4
- 5

correct:

Tags:

- 0
- 2
- (3)
- 4
- 5

correct:

Tags:

- 1
- 2
- (3)
- 4
- 5

correct:

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