



Āryabhaṭa Ganit Challenge 2022

First Stage



Name					
Class		Section		Roll No.	

Maximum marks: 40

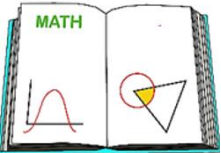
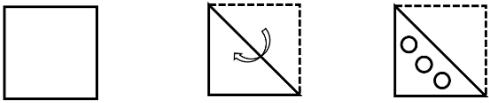
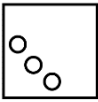



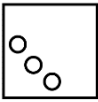



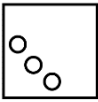



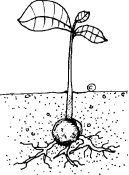
Duration: 1 hour

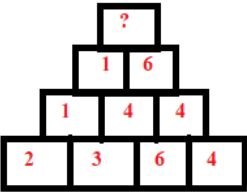
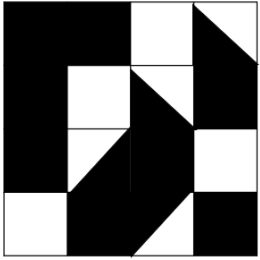
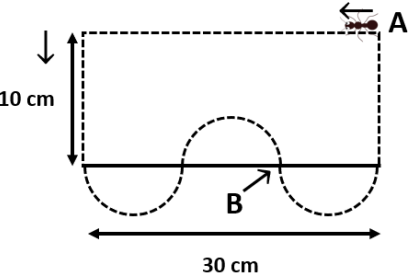
Instructions to the candidates:




- 1) No marks will be deducted for wrong answers.
- 2) All questions carry equal marks.
- 3) Read the questions carefully and tick (✓) the most appropriate option.
- 4) Do your rough work in the space provided.
- 5) There is no separate answer sheet given. Mark the correct option in this question paper only.
- 6) After finishing the work, return your question paper marked with the answers to the invigilator.

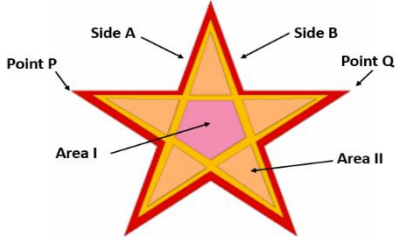
(Office Purpose only)

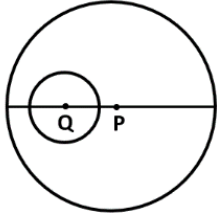

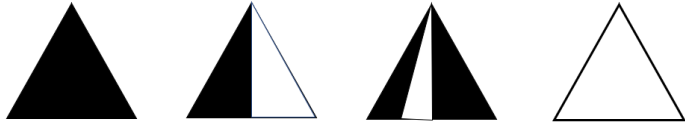
Score		Evaluator's initial		Co-ordinator's initials	
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Q. N.	Question				
1	<p>Suman is playing a game with her math book, having pages numbered from 1 to 145. She opens the book at a random page and adds the two facing page numbers. She notes down the total obtained as a score for that turn and plays this game for a few turns. What can you say about the score in each turn?</p>  <table border="1" data-bbox="204 443 1453 488"> <tr> <td>a) Even</td> <td>b) Odd</td> <td>c) Either even or odd</td> <td>d) Composite</td> </tr> </table>	a) Even	b) Odd	c) Either even or odd	d) Composite
a) Even	b) Odd	c) Either even or odd	d) Composite		
2	<p>Consider a process of computation, given by - $f(x) = \text{abs}(\text{sq}(\text{cu}(x)))$, where $\text{abs}(x)$ is the absolute value of x; $\text{sq}(x)$ is the square of x and $\text{cu}(x)$ is the cube root of x. Then $f(-8)$ is :</p> <table border="1" data-bbox="204 685 1307 730"> <tr> <td>a) -1</td> <td>b) -4</td> <td>c) 1</td> <td>d) 4</td> </tr> </table>	a) -1	b) -4	c) 1	d) 4
a) -1	b) -4	c) 1	d) 4		
3	<p>A square piece of paper is folded once, along one of its diagonals and then three holes are punched into it as shown below.</p>  <p>As a result, which one of the following options will be the case when the paper is opened completely?</p> <table border="1" data-bbox="276 1061 1382 1205"> <tr> <td>a) </td> <td>b) </td> <td>c) </td> <td>d) </td> </tr> </table>	a) 	b) 	c) 	d) 
a) 	b) 	c) 	d) 		
4	<p>A seed takes three days to germinate and break the soil, after being sown. After that the plant grows at a constant rate of 3.5cm each week. In how many days will it grow to the height of 7cm above the soil?</p>  <table border="1" data-bbox="204 1397 1222 1442"> <tr> <td>a) 3 days</td> <td>b) 5 days</td> <td>c) 14 days</td> <td>d) 17 days</td> </tr> </table>	a) 3 days	b) 5 days	c) 14 days	d) 17 days
a) 3 days	b) 5 days	c) 14 days	d) 17 days		

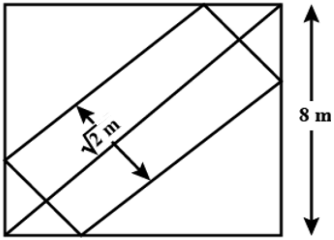
5	<p>Which one of the given options shall replace the [?] in the pattern of numbers in the following grid?</p> <div style="text-align: center;">  </div> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>a) 9</td> <td>b) 6</td> <td>c) 4</td> <td>d) 2</td> </tr> </table>	a) 9	b) 6	c) 4	d) 2
a) 9	b) 6	c) 4	d) 2		
6	<p>A car needs to go up and down a hill. The top of the hill is 1 km going up, and 1 km going down. The car can travel at an average speed of 15 km/h going up the hill, but goes faster during the descent. How fast must the car be going downhill, in order for its speed to reach an average of 30 km/h for the entire journey of going up and down the hill?</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>a) 20km/h</td> <td>b) 40km/h</td> <td>c) 45km/h</td> <td>d) Cannot be determined</td> </tr> </table>	a) 20km/h	b) 40km/h	c) 45km/h	d) Cannot be determined
a) 20km/h	b) 40km/h	c) 45km/h	d) Cannot be determined		
7	<p>What fraction of the given below square is shaded in black?</p> <div style="text-align: right;">  </div> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>a) $\frac{3}{8}$</td> <td>b) $\frac{5}{6}$</td> <td>c) $\frac{5}{8}$</td> <td>d) $\frac{9}{16}$</td> </tr> </table>	a) $\frac{3}{8}$	b) $\frac{5}{6}$	c) $\frac{5}{8}$	d) $\frac{9}{16}$
a) $\frac{3}{8}$	b) $\frac{5}{6}$	c) $\frac{5}{8}$	d) $\frac{9}{16}$		
8	<p>The first 300 natural numbers are written in an ascending order of sequence. Now all the numbers at the odd places of this sequence are removed and, thus a new sequence is formed. From this new sequence, all the numbers at odd places are removed once again. This process continues till only one number remains at the end. What is this number?</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>a) 128</td> <td>b) 256</td> <td>c) 350</td> <td>d) 512</td> </tr> </table>	a) 128	b) 256	c) 350	d) 512
a) 128	b) 256	c) 350	d) 512		
9	<p>An ant starts to walk from point A, along the dotted path as shown in the diagram and stops at point B. The ant's path is on the boundary of a rectangle of dimensions 30cm X 10cm and the outline of three congruent semicircles on the rectangle's longer side. What is the distance travelled by the ant to move from point A to point B?</p> <div style="text-align: right;">  </div> <table border="1" style="width: 100%; text-align: center;"> <tr> <td>a) 44cm</td> <td>b) $(40+\pi)$ cm</td> <td>c) $(40+10\pi)$ cm</td> <td>d) $(40+15\pi)$ cm</td> </tr> </table>	a) 44cm	b) $(40+\pi)$ cm	c) $(40+10\pi)$ cm	d) $(40+15\pi)$ cm
a) 44cm	b) $(40+\pi)$ cm	c) $(40+10\pi)$ cm	d) $(40+15\pi)$ cm		

10	<p>Which Indian mathematician is famously known as Euler's spoiler?</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 25%;">a) Rama nujan</td> <td style="width: 25%;">b) S. S. Shrikhande</td> <td style="width: 25%;">c) Kombur Sesha lyengar</td> <td style="width: 25%;">d) Ramdas Bhirud</td> </tr> </table>	a) Rama nujan	b) S. S. Shrikhande	c) Kombur Sesha lyengar	d) Ramdas Bhirud
a) Rama nujan	b) S. S. Shrikhande	c) Kombur Sesha lyengar	d) Ramdas Bhirud		
11	<p>Observe the pattern in the first Bank debit card and then select the correct one from the given below options to replace the [?] mark on the second card.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>CARD - I</p> </div> <div style="text-align: center;">  <p>CARD - II</p> </div> </div> <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 25%;">a) 320</td> <td style="width: 25%;">b) 486</td> <td style="width: 25%;">c) 512</td> <td style="width: 25%;">d) 638</td> </tr> </table>	a) 320	b) 486	c) 512	d) 638
a) 320	b) 486	c) 512	d) 638		
12	<p>Raman has invited a few friends to celebrate his birthday. The first time the doorbell rings, one friend arrives. On every next doorbell ring, a group of friends enters, that has two more persons than the group that entered on the previous ring. How many friends are present in the party if Raman answered the doorbell 8 times in total?</p> <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 25%;">a) 16</td> <td style="width: 25%;">b) 32</td> <td style="width: 25%;">c) 60</td> <td style="width: 25%;">d) 64</td> </tr> </table>	a) 16	b) 32	c) 60	d) 64
a) 16	b) 32	c) 60	d) 64		
13	<p>Somu is x years old and his elder sister is y years old. Which one of the options given below will <u>not</u> be true, with respect to time?</p> <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 25%;">a) $x^3 = y^3$</td> <td style="width: 25%;">b) $y - x \neq 0$</td> <td style="width: 25%;">c) $y > x$</td> <td style="width: 25%;">d) $x - y < 0$</td> </tr> </table>	a) $x^3 = y^3$	b) $y - x \neq 0$	c) $y > x$	d) $x - y < 0$
a) $x^3 = y^3$	b) $y - x \neq 0$	c) $y > x$	d) $x - y < 0$		
14	<p>A <i>palindrome</i> number reads the same way from left right as well as right to left. An <i>ambigram</i> number will read the same way upside down. The date in the digital calendar for year 2021, in the picture below is</p> <div style="display: flex; align-items: center; margin-top: 10px;">  to </div> <table border="1" style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 100%;">a) a palindrome and not an ambigram number</td> </tr> <tr> <td style="width: 100%;">b) an ambigram and not a palindrome number</td> </tr> <tr> <td style="width: 100%;">c) both a palindrome and an ambigram number</td> </tr> <tr> <td style="width: 100%;">d) neither a palindrome nor an ambigram number</td> </tr> </table>	a) a palindrome and not an ambigram number	b) an ambigram and not a palindrome number	c) both a palindrome and an ambigram number	d) neither a palindrome nor an ambigram number
a) a palindrome and not an ambigram number					
b) an ambigram and not a palindrome number					
c) both a palindrome and an ambigram number					
d) neither a palindrome nor an ambigram number					
15	<p>A grocer buys two varieties of rice X and Y at the rate of Rs a per kg and Rs b per kg respectively (given that $a < b$). He mixes them together to obtain a mixture which costs Rs c per kg. What is the ratio of the variety X to that of variety Y in the mixture?</p>				

	a) $(b + c):(c + a)$	b) $(b - a):(c - a)$	c) $(b - c):(c - a)$	d) $(b + c):(c - a)$				
16	<p>Which Indian mathematician was the first to state and use the rules on operation of zero?</p> <table border="1"> <tr> <td>a) Aryabhata</td> <td>b) Bhaskara I</td> <td>c) Brahmagupta</td> <td>d) Mahavira</td> </tr> </table>				a) Aryabhata	b) Bhaskara I	c) Brahmagupta	d) Mahavira
a) Aryabhata	b) Bhaskara I	c) Brahmagupta	d) Mahavira					
17	<p>When a passenger train maintains a constant speed of 60 km per hour, it can travel 4 km per litre of diesel fuel. On a particular trip, it begins with 200 litre full tank of diesel fuel, then which one of the following given equations represents the relationship between the number of litres (l) left in the train's fuel tank after travelling for 't' hours into the trip?</p> <table border="1"> <tr> <td>a) $l = \frac{200-60t}{4}$</td> <td>b) $l = 200 - \frac{1}{15t}$</td> <td>c) $l = 200 - 15t$</td> <td>d) $l = 200 - \frac{t}{15}$</td> </tr> </table>				a) $l = \frac{200-60t}{4}$	b) $l = 200 - \frac{1}{15t}$	c) $l = 200 - 15t$	d) $l = 200 - \frac{t}{15}$
a) $l = \frac{200-60t}{4}$	b) $l = 200 - \frac{1}{15t}$	c) $l = 200 - 15t$	d) $l = 200 - \frac{t}{15}$					
18	<p>When the rangoli picture given below is magnified 100 times over, which one of the following will <u>not</u> change?</p> <table border="1"> <tr> <td>a) Area I and II</td> </tr> <tr> <td>b) Distance between points P and Q</td> </tr> <tr> <td>c) Length of sides A and B</td> </tr> <tr> <td>d) Angle between sides A and B</td> </tr> </table>	a) Area I and II	b) Distance between points P and Q	c) Length of sides A and B	d) Angle between sides A and B			
a) Area I and II								
b) Distance between points P and Q								
c) Length of sides A and B								
d) Angle between sides A and B								
19	<p>In a survey of 35 employees of a company, it was found that the average salary of 15 men is same as the average salary of 20 women employees. Based on this information, which of the following statements is true?</p> <table border="1"> <tr> <td>a) Sum of salary of men is less than that of women employees</td> </tr> <tr> <td>b) Sum of salary of men is more than that of women employees</td> </tr> <tr> <td>c) Sum of salary of men is equal to that of women employees</td> </tr> <tr> <td>d) No concrete interpretation can be drawn</td> </tr> </table>				a) Sum of salary of men is less than that of women employees	b) Sum of salary of men is more than that of women employees	c) Sum of salary of men is equal to that of women employees	d) No concrete interpretation can be drawn
a) Sum of salary of men is less than that of women employees								
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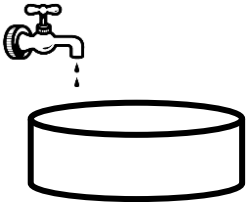
20	<p>Two non- intersecting circles are such that one circle with centre Q and diameter b units lies inside the other circle with centre P and diameter a units. If the shortest distance between the circumferences of the circles is c units, then the distance between their centres is -</p>					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">a) $\frac{a}{2} - b - c$</td> <td style="width: 25%; padding: 5px;">b) $a + \frac{b}{2} - c$</td> <td style="width: 25%; padding: 5px;">c) $\frac{(a+b-c)}{2}$</td> <td style="width: 25%; padding: 5px;">d) $\frac{(a-b-2c)}{2}$</td> </tr> </table>			a) $\frac{a}{2} - b - c$	b) $a + \frac{b}{2} - c$	c) $\frac{(a+b-c)}{2}$	d) $\frac{(a-b-2c)}{2}$
a) $\frac{a}{2} - b - c$	b) $a + \frac{b}{2} - c$	c) $\frac{(a+b-c)}{2}$	d) $\frac{(a-b-2c)}{2}$			
21	<p>A boy can run at the speed of p km/h to cover a distance of 1 km, but due to slippery ground, his speed gets reduced by q km/h (where $p > q, q \neq 0$). If he takes r hours to cover 1 km, then -</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; padding: 5px;">a) $\frac{1}{r} = (p - q)$</td> <td style="width: 25%; padding: 5px;">b) $\frac{1}{r} = (p + q)$</td> <td style="width: 25%; padding: 5px;">c) $r = (p - q)$</td> <td style="width: 25%; padding: 5px;">d) $r = (p + q)$</td> </tr> </table>	a) $\frac{1}{r} = (p - q)$	b) $\frac{1}{r} = (p + q)$	c) $r = (p - q)$	d) $r = (p + q)$
a) $\frac{1}{r} = (p - q)$	b) $\frac{1}{r} = (p + q)$	c) $r = (p - q)$	d) $r = (p + q)$			
22	<p>Ram filled his bike fuel tank to its maximum capacity litres. His bike gives a milage of 80 km/l. After a few days, the bike fuel gauge shows reading of fuel quantity as shown in the picture. Based on the reading of the fuel gauge, how many kilometers (approximately) has his bike travelled?</p>	<div style="display: flex; align-items: center; justify-content: space-between;">  of 15 </div> <p style="text-align: center; margin-top: 5px;">Bike Fuel Gauge</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%; padding: 5px;">a) 5 km</td> <td style="width: 25%; padding: 5px;">b) 15 km</td> <td style="width: 25%; padding: 5px;">c) 75 km</td> <td style="width: 25%; padding: 5px;">d) 400 km</td> </tr> </table>	a) 5 km	b) 15 km	c) 75 km	d) 400 km
a) 5 km	b) 15 km	c) 75 km	d) 400 km			
23	<p>In <i>Ganitashastra</i>, the term “<i>Gomutrika</i>” is the method discovered by Indian mathematician Bhaskaracharya, which is about :</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%; padding: 5px;">a) Multiplication method</td> <td style="width: 25%; padding: 5px;">b) Division method</td> <td style="width: 25%; padding: 5px;">c) Square root method</td> <td style="width: 25%; padding: 5px;">d) Negative numbers</td> </tr> </table>		a) Multiplication method	b) Division method	c) Square root method	d) Negative numbers
a) Multiplication method	b) Division method	c) Square root method	d) Negative numbers			
24	<p>Observe the pattern in the first three figures, what percentage does the fourth figure represent?</p> <div style="text-align: center; margin: 10px 0;">  </div> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%; padding: 5px;">a) 0%</td> <td style="width: 25%; padding: 5px;">b) 0.1%</td> <td style="width: 25%; padding: 5px;">c) 100%</td> <td style="width: 25%; padding: 5px;">d) 200%</td> </tr> </table>		a) 0%	b) 0.1%	c) 100%	d) 200%
a) 0%	b) 0.1%	c) 100%	d) 200%			
25	<p>Which one of the given below options will fit in the sequence: 727, 998, 1329, ?, 2742.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%; padding: 5px;">a) 1624</td> <td style="width: 25%; padding: 5px;">b) 1726</td> <td style="width: 25%; padding: 5px;">c) 2540</td> <td style="width: 25%; padding: 5px;">d) 2678</td> </tr> </table>		a) 1624	b) 1726	c) 2540	d) 2678
a) 1624	b) 1726	c) 2540	d) 2678			

26 In the given figure, a rectangular plank is placed symmetrically on one of the diagonals of a square such that corner points of the plank lie on the square and its edges are equally inclined to the adjacent sides of the square. What is the area of the plank?

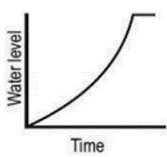
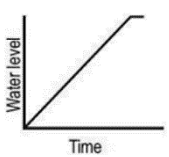
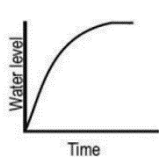
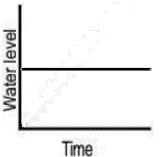


a) $7\sqrt{2}$ sq.m	b) 14 sq.m	c) $(16\sqrt{2} - 3)$ sq.m	d) 98 sq.m
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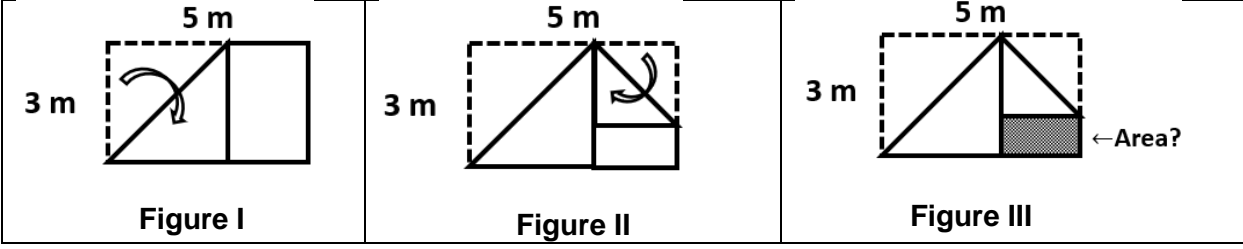
27 As shown in the diagram below, a cylindrical bucket is placed under a tap, which is dripping at a constant speed.



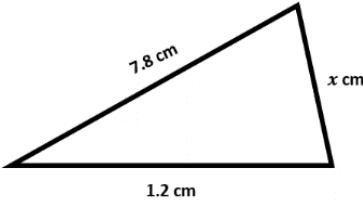
Which one of the given graphs represents the water level in the bucket over a period of time, as it is being filled?

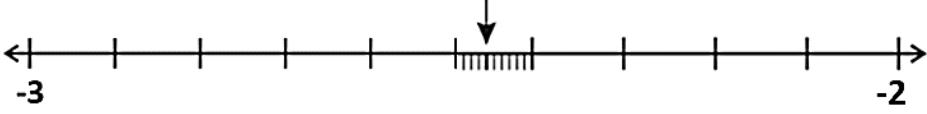
a) 	b) 	c) 	d) 
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28 A canvas sheet measures 5 m by 3 m. It is folded as shown below. What will be the area of the highlighted portion of the canvas, after making the two folds?



a) 2 cm^2	b) 4 cm^2	c) 6.5 cm^2	d) 8.5 cm^2
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29	<p>Based on the figure below, which one of the given options will BEST describe the conditions on side x of the triangle?</p>  <p style="text-align: center;">1.2 cm</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) $x < 7.8$</td> <td style="width: 25%;">b) $x > 1.2$</td> <td style="width: 25%;">c) $1.2 < x < 7.8$</td> <td style="width: 25%;">d) $6.6 < x < 9$</td> </tr> </table>	a) $x < 7.8$	b) $x > 1.2$	c) $1.2 < x < 7.8$	d) $6.6 < x < 9$															
a) $x < 7.8$	b) $x > 1.2$	c) $1.2 < x < 7.8$	d) $6.6 < x < 9$																	
30	<p>What are the least positive integral values of M and N respectively, if a number represented by '$M39048458N$' is divisible by both 8 and 11?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) $M = 7, N = 8$</td> <td style="width: 25%;">b) $M = 8, N = 6$</td> <td style="width: 25%;">c) $M = 6, N = 4$</td> <td style="width: 25%;">d) $M = 5, N = 4$</td> </tr> </table>	a) $M = 7, N = 8$	b) $M = 8, N = 6$	c) $M = 6, N = 4$	d) $M = 5, N = 4$															
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31	<p>If a number 'a' exceeds another number 'b' by $x\%$, then which one of the following equations is correct?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) $a - b = \frac{x}{100}$</td> <td style="width: 25%;">b) $b = a + 100x$</td> <td style="width: 25%;">c) $a = x\left(\frac{b}{100} + 1\right)$</td> <td style="width: 25%;">d) $a = b\left(1 + \frac{x}{100}\right)$</td> </tr> </table>	a) $a - b = \frac{x}{100}$	b) $b = a + 100x$	c) $a = x\left(\frac{b}{100} + 1\right)$	d) $a = b\left(1 + \frac{x}{100}\right)$															
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32	<p>A person invests money in three different investments for 6 years, 10 years and 12 years at 10%, 12% and 15% simple interest per annum respectively. On maturity, he receives the same interest on each investment. What is the ratio of his investment?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) 2 : 3 : 4</td> <td style="width: 25%;">b) 6 : 3 : 2</td> <td style="width: 25%;">c) 3 : 5 : 8</td> <td style="width: 25%;">d) 2 : 3 : 5</td> </tr> </table>	a) 2 : 3 : 4	b) 6 : 3 : 2	c) 3 : 5 : 8	d) 2 : 3 : 5															
a) 2 : 3 : 4	b) 6 : 3 : 2	c) 3 : 5 : 8	d) 2 : 3 : 5																	
33	<p>In 16 minutes, by how many degrees will the minute hand gain over the hour hand?</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) 16</td> <td style="width: 25%;">b) 80</td> <td style="width: 25%;">c) 88</td> <td style="width: 25%;">d) 109</td> </tr> </table>	a) 16	b) 80	c) 88	d) 109															
a) 16	b) 80	c) 88	d) 109																	
34	<p>The difference between the measure of an exterior angle of $(n - 1)$ sided regular polygon and that of $(n + 2)$ sided regular polygon is 6°. Then the value of n is :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">a) 12</td> <td style="width: 25%;">b) 13</td> <td style="width: 25%;">c) 14</td> <td style="width: 25%;">d) 18</td> </tr> </table>	a) 12	b) 13	c) 14	d) 18															
a) 12	b) 13	c) 14	d) 18																	
35	<p>In this classification table, which one of the options will fit in cell 'B'?</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">Type of quadrilateral</th> <th colspan="2" style="text-align: left;">Adjacent sides</th> </tr> <tr> <th colspan="2"></th> <th style="text-align: center;">Not equal</th> <th style="text-align: center;">Equal</th> </tr> </thead> <tbody> <tr> <th rowspan="2" style="text-align: center; vertical-align: middle;">Opposite sides</th> <th style="text-align: center;">Parallel</th> <td style="text-align: center;">A</td> <td style="text-align: center;">B</td> </tr> <tr> <th style="text-align: center;">Not parallel</th> <td style="text-align: center;">C</td> <td style="text-align: center;">D</td> </tr> </tbody> </table> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 25%;">a) Parallelogram</td> <td style="width: 25%;">b) Trapezium</td> <td style="width: 25%;">c) Rhombus</td> <td style="width: 25%;">d) Rectangle</td> </tr> </table>	Type of quadrilateral		Adjacent sides				Not equal	Equal	Opposite sides	Parallel	A	B	Not parallel	C	D	a) Parallelogram	b) Trapezium	c) Rhombus	d) Rectangle
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a) Parallelogram	b) Trapezium	c) Rhombus	d) Rectangle																	

36	<p>What is the average of 3^{18} and 3^{21}?</p> <table border="1" data-bbox="288 147 1366 248"> <tbody> <tr> <td>a) 3^{18}</td> <td>b) 14×3^{18}</td> <td>c) $\frac{3^{39}}{2}$</td> <td>d) 3^{39}</td> </tr> </tbody> </table>	a) 3^{18}	b) 14×3^{18}	c) $\frac{3^{39}}{2}$	d) 3^{39}
a) 3^{18}	b) 14×3^{18}	c) $\frac{3^{39}}{2}$	d) 3^{39}		
37	<p>Which number does the arrow show in the number line?</p>  <table border="1" data-bbox="204 450 1307 488"> <tbody> <tr> <td>a) -3.54</td> <td>b) -3.46</td> <td>c) -2.46</td> <td>d) -2.25</td> </tr> </tbody> </table>	a) -3.54	b) -3.46	c) -2.46	d) -2.25
a) -3.54	b) -3.46	c) -2.46	d) -2.25		
38	<p>A 5-digit number given by the expression 'abcde' is divisible by 9 if -</p> <p>(i) $a + b + c + d + e$ is divisible by 9 (ii) $a - b + c - d + e$ is divisible by 9</p> <p>Which of the above statements is /are correct?</p> <table border="1" data-bbox="204 770 1292 808"> <tbody> <tr> <td>a) (i) only</td> <td>b) (ii) only</td> <td>c) Both (i) and (ii)</td> <td>d) Neither (i) nor (ii)</td> </tr> </tbody> </table>	a) (i) only	b) (ii) only	c) Both (i) and (ii)	d) Neither (i) nor (ii)
a) (i) only	b) (ii) only	c) Both (i) and (ii)	d) Neither (i) nor (ii)		
39	<p>If $\frac{m}{\sqrt{10} + \sqrt{14} + \sqrt{15} + \sqrt{21}} = \frac{\sqrt{10} - \sqrt{14} - \sqrt{15} + \sqrt{21}}{k}$, then which one of the following options is true?</p> <table border="1" data-bbox="204 943 1307 1032"> <tbody> <tr> <td>a) $k = \frac{m}{2}$</td> <td>b) $m = \frac{k}{2}$</td> <td>c) $m = \frac{2}{k}$</td> <td>d) $mk = \frac{1}{2}$</td> </tr> </tbody> </table>	a) $k = \frac{m}{2}$	b) $m = \frac{k}{2}$	c) $m = \frac{2}{k}$	d) $mk = \frac{1}{2}$
a) $k = \frac{m}{2}$	b) $m = \frac{k}{2}$	c) $m = \frac{2}{k}$	d) $mk = \frac{1}{2}$		
40	<p>For what values of x and y respectively, will the following equation hold true?</p> $\frac{5x + 1}{x} \times \frac{4y + 3}{4} = 20$ <table border="1" data-bbox="204 1223 1374 1261"> <tbody> <tr> <td>a) $x = 3$ and $y = 3$</td> <td>b) $x = 1$ and $y = 3$</td> <td>c) $x = 4$ and $y = 1$</td> <td>d) $x = 5$ and $y = 3$</td> </tr> </tbody> </table>	a) $x = 3$ and $y = 3$	b) $x = 1$ and $y = 3$	c) $x = 4$ and $y = 1$	d) $x = 5$ and $y = 3$
a) $x = 3$ and $y = 3$	b) $x = 1$ and $y = 3$	c) $x = 4$ and $y = 1$	d) $x = 5$ and $y = 3$		