

GATE 2018

Computer Science & IT

▶ **General Aptitude
(Question With Solution)**

SET-1

1. What would be the smallest natural number which when divided either by 20 or by 42 or by 76 leaves a remainder of 7 in each case?

- A. 3047 B. 6047
C. 7987 D. 63847

Ans. C

Sol. From the given number is divided by either by 20 or 42 or by 76

$K \times \text{LCM}(20, 42, 76) + \text{constant difference} = 7980K + 7$ is natural number .

So the Ans is 7987

2. "A _____ investigation can sometimes yield new facts, but typically organized ones are more successful."

- A. meandering B. timely
C. consistent D. systematic

Ans. A

Sol. Meandering: mean is wandering aimlessly/indirect. Consistent is acting or done in the same way over time

3. "From where are they bringing their books? _____ bringing _____ books from _____."

The words that best fill the blanks in the above sentence are

- A. Their, they're there
B. They're, their, there
C. There, their, they're
D. They're, there, there

Ans. B

Sol. In this question They're used for pointing group. There is pointing people. There is used for place.

4. What is the missing number in the following sequence?

2, 12, 60, 240, 720, 1440, _____, 0

- A. 2880 B. 1440
C. 720 D. 0

Ans. B

Sol. $2 \times 6 = 12$

$$12 \times 5 = 60$$

$$60 \times 4 = 240$$

$$240 \times 3 = 720$$

$$720 \times 2 = 1440$$

$$1440 \times 1 = 1440$$

$$1440 \times 0 = 0$$

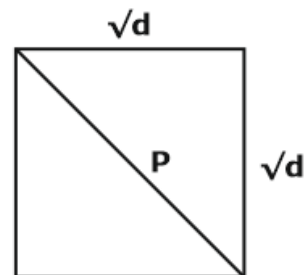
so answer is 1440

5. The area of a square is d . What is the area of the circle which has the diagonal of the square as its diameter?

- A. nd
B. nd^2
C. $nd^2/4$
D. $nd/2$

Ans. D

Sol.



Area of square = d

Side one side of square = \sqrt{d}

Diagonal of square = $\sqrt{d+d} = \sqrt{2d}$

Area of circle = πr^2

$$= \pi \left(\frac{\sqrt{2d}}{2} \right)^2$$

$$= \pi \frac{d}{2}$$

$$= \frac{1}{2} \pi d$$

6. In appreciation of the social improvements completed in a town, a wealthy philanthropist decided to gift Rs 750 to each male senior citizen in the town and Rs 1000 to each female senior citizen. Altogether, there were 300 senior citizens eligible for this gift. However, only $\frac{8}{9}$ th of the eligible men and $\frac{2}{3}$ rd of the eligible women claimed the gift. How much money (in Rupees) did the philanthropist give away in total?

- A. 1,50,000 B. 2,00,000
C. 1,75,000 D. 1,51,000

Ans. B

Sol. Male + Female = 300 (i)

$$\text{Total money} = \frac{8}{9} M \times 750 + \frac{2}{3} F \times 1000$$

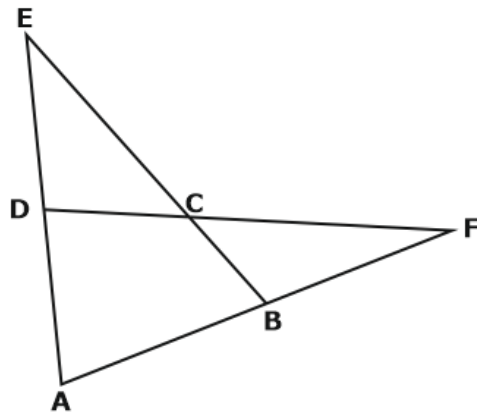
$$= \frac{6000}{9} M + \frac{6000}{9} F$$

$$= \frac{6000}{9}$$

From equation (i)

$$\text{Total money} = \frac{6000}{9} (300) = 2,00,000$$

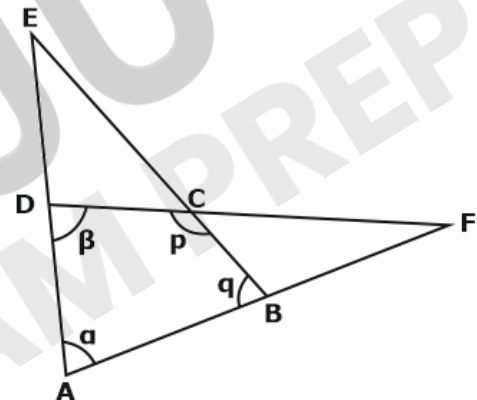
7. In the figure below, $\angle DEC + \angle BFC$ is equal to _____.



- A. $\angle BCD - \angle BAD$ B. $\angle BAD - \angle BCF$
C. $\angle BAD - \angle BCD$ D. $\angle CBA - \angle ADC$

Ans. A

Sol.



$$\angle E + \angle F = ?$$

$$\alpha + q + E = 180 \dots\dots (i)$$

$$\alpha + \beta + F = 180 \dots\dots (ii)$$

$$\alpha + \beta + p + q = 360 \dots\dots (iii)$$

$$\text{Equation (i) + (ii) = (iii)}$$

$$\alpha + q + E + \alpha + \beta + F = \alpha + \beta + p + q$$

$$E + F = p - \alpha$$

8. A six-sided unbiased die with four green faces and two red faces is rolled seven times. Which of the following combinations is the most likely outcome of the experiment?

- A. Three green faces and four red faces.
B. Four green faces and three red faces.
C. Five green faces and two red faces.
D. Six green faces and one red face.

Ans. C

Sol. Four green, two red face

$$P(G) = \frac{4}{6} = \frac{2}{3}$$

$$q(R) = \frac{1}{3}$$

$$n = 7$$

Option (1),

$$P(G = 3) = {}^7C_3 \left(\frac{2}{3}\right)^3 \left(\frac{1}{3}\right)^4$$

$$= \frac{35 \times 2^3}{(3)^7} = \frac{35 \times 2^3}{(3)^7}$$

$$P(G = 4) = {}^7C_4 \times \left(\frac{2}{3}\right)^4 \times \left(\frac{1}{3}\right)^3$$

(2),

$$= \frac{35 \times 2^4}{(3)^7} = \frac{35 \times 2^4}{(3)^7}$$

$$(3), P(G = 5) = {}^7C_5 \times \left(\frac{2}{3}\right)^5 \times \left(\frac{1}{3}\right)^2$$

$$= \frac{21 \times 2^5}{(3)^7} = \frac{42 \times 2^4}{(3)^7}$$

$$(4), P(G = 6) = {}^7C_6 \times \left(\frac{2}{3}\right)^6 \times \left(\frac{1}{3}\right)$$

$$\frac{7 \times 2^6}{(3)^7} = \frac{28 \times 2^4}{(3)^7}$$

Option 3 is maximum value.

in other way Option A is clearly smaller and hence eliminated.

So, $C > B$ and $C > D$.

Hence, C is the most favorable outcome.

So, five green faces and two red faces.

- 9.** In a party, 60% of the invited guests are male and 40% are female. If 80% of the invited guests attended the party and if all the invited female guests attended, what would be the ratio of males to females among the attendees in the party?

A. 2 : 3

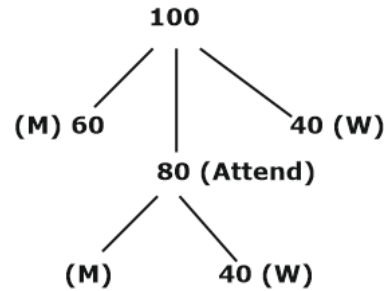
B. 1 : 1

C. 3 : 2

D. 2 : 1

Ans. B

Sol. Let total number of people are 100.



So, M must be $80 - 40 = 40$

Ratio of male to female

40 : 40

1 : 1

- 10.** In $pqr \neq 0$ and $p^{-x} = \frac{1}{q}$, $q^{-y} = \frac{1}{r}$, $r^{-z} = \frac{1}{p}$, what is the value of the product xyz ?

A. -1

B. $1/pqr$

C. 1

D. pqr

Ans. C

Sol. $p = r^z$

$$p^x = q$$

$$q^y = r$$

$$x \log p = \log q$$

$$y \log q = \log r$$

$$z \log r = \log p$$

$$x = \frac{\log q}{y p}$$

$$y = \frac{\log r}{\log q}$$

$$z = \frac{\log p}{\log r}$$

$$x \times y \times z = 1$$
