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PREVIOUS YEAR GATE

COMPUTER SCIENCE QUESTION PAPER SOLUTIONS

GATE 2018 Computer Science
General Aptitude (GA) Set-3

Q. 1 – Q. 5 carry one mark each.

Q.1 "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

They're ← group of people
their ← pointing towards those people
there ← place

(1) Their ✗
(1) they're ✗
(2) there ✓

Their :- pointing people
Parents keen to help their children
There :- for place
They're :- pointing towards a group.
↳ They're happy.

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

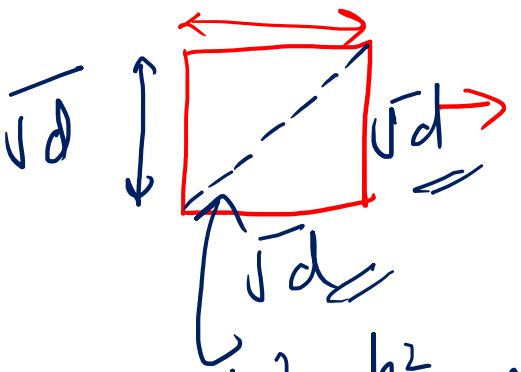
The word that best fills the blank in the above sentence is

(A) meandering (B) timely (C) consistent (D) systematic

→ An Act of following winding course
→ Proceeding in a convoluted or undirected fashion
↳ unorganised.

Q.3 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) πd (B) πd^2 (C) $\frac{1}{4}\pi d^2$ (D) $\frac{1}{2}\pi d$



Area of Square d

$\hookrightarrow$ side × side

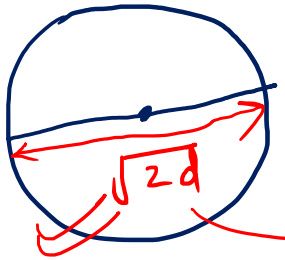
$(\text{side})^2 = d$

$\text{side} = \sqrt{d}$

$(h)^2 = B^2 + A^2$

$h = \sqrt{B^2 + A^2}$

$= \sqrt{(\sqrt{d})^2 + (\sqrt{d})^2} = \sqrt{2d}$



area of circle $= \pi r^2$

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

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

$= \pi \frac{2d}{4} = \pi \frac{d}{2} \rightarrow \frac{1}{2}(\pi d)$

Q.4 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

1. Find a smallest # that can be divided by 20, 42 and 76
2. smallest + 7 => (New #)

LCM (20, 42, 76) = 7980

7980 + 7 = 7987

Q.5 What is the missing number in the following sequence?

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

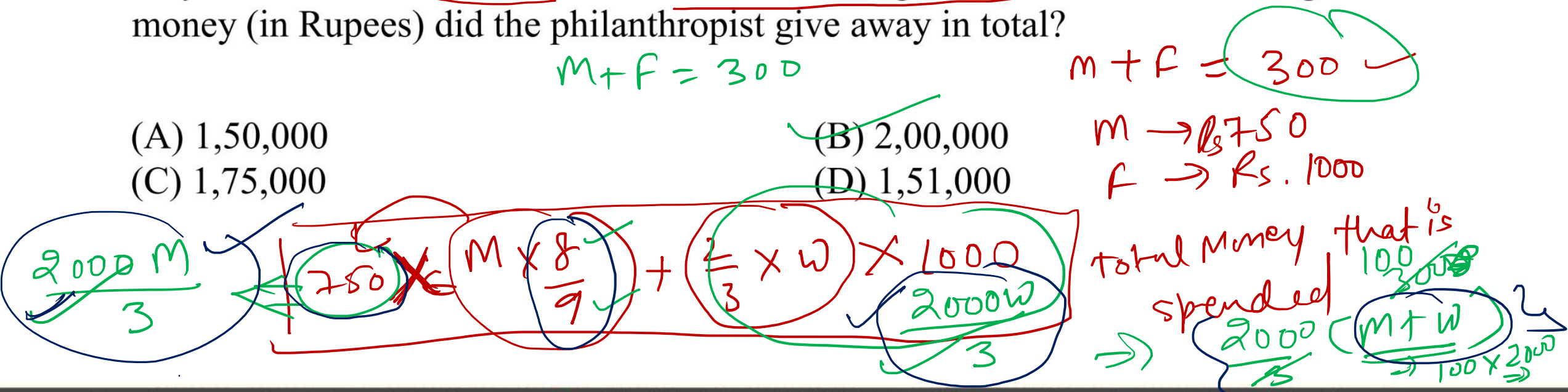
2×6, 12×5, 60×4, 240×3, 720×2, 1440×1, 1440×0

(A) 2880 (B) 1440 (C) 720 (D) 0

Q. 6 – Q. 10 carry two marks each.

Q.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 $8/9^{th}$ of the eligible men and $2/3^{rd}$ 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



Q.7 If $pqr \neq 0$ 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) $\frac{1}{pqr}$

(C) 1

(D) pqr

$p^{-x} = \frac{1}{q}$

$\Rightarrow \log p^{-x} = \log\left(\frac{1}{q}\right)$

$\Rightarrow -x \log p = \log 1 - \log q$

$\Rightarrow -x \log p = -\log q$

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

$q^{-y} = \frac{1}{r}$

$-y \log q = \log 1 - \log r$

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

$r^{-z} = \frac{1}{p}$

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

xyz

$= \frac{\log q}{\log p} \times \frac{\log r}{\log q} \times \frac{\log p}{\log r}$

$= 1$

$xyz = 1$

Q.8 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

60% → M

40% → F

80% (total guest) =

(1) Sample data

Total guest = 100

60 males, 40 femal

Only 80% Attended Party = 80

80 − 40f = male who Attended Party.

40 males

40f / 40M ⇒ 1:1

(2) Total guest = X

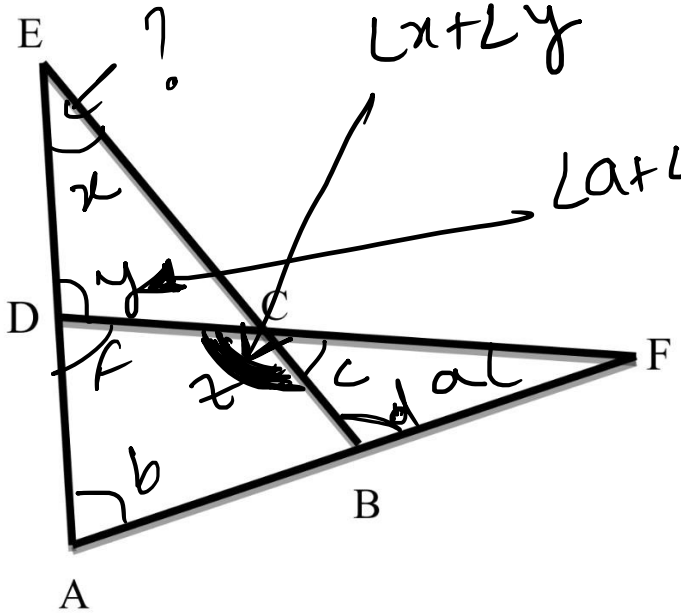
60X/100 (M) & 40X/100 (F)

only 80% = 80X/100

80X/100 − 40X/100 = Male

40X/100 = M ⇒ 1:1

Q.9 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) $\angle CBA + \angle ADC$

Q.10 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.