

Logical Quant Workbook

Special Eqns

Raju has some two rupees coins and some 3 rupees coins. The total amount with Raju is 14 rupees.

1. How many combinations of coins possible with Raju?

- A. 2
- B. 3
- C. 4
- D. 5

2. What is the maximum possible number of coins with Raju?

- A. 6
- B. 3
- C. 4
- D. 5

3. Which of the following is a possible number of 3 rupees coin?

- A. 2
- B. 3
- C. 4
- D. 5

4. Which of the following is a possible number of 2 rupees coin?

- A. 2
- B. 3
- C. 4
- D. 5

In an alien country there are 2 kind of species A & B. A has 3 fingers and B is a 5 fingered animal. If the total number of fingers is 20 find:

5. How many combinations of fingers possible?

- A. 2
- B. 3
- C. 4
- D. 1

6. What is the total possible number of 3 fingered species?

- A. 6
- B. 3
- C. 1
- D. 5

7. What is the total possible number of 5 fingered species?

- A. 6
- B. 3
- C. 1
- D. 5

8. How to guess Foram's birthday date. 8 times the date of my bdate added to 15 times the month is equal to 769. How many combinations possible?

- A. 6
- B. 3
- C. 4
- D. 5

9. How many combinations possible?

$$9x + 17y = 284$$

- A. 2
- B. 3
- C. 4
- D. 5

10. How many 3 digit nos. leave a remainder of 4 when divided by 21 and a remainder of 8 when divided by 13.

- A. 2
- B. 3
- C. 4
- D. 5

11. A worker is supposed to pack less than 252 bolts into boxes. he finds that if he packs 5 bolts less per box he can pack 10 more boxes per day. how many bolts does he pack per box given that he packs atleast 16 boxes a day.

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- A. 234
- B. 238
- C. 252
- D. 208

Solutions

$$2x + 3y = 14$$

- 1. A. Total possible combinations is two
- 2. A. One of the possible combination is (4, 2) which makes it total 6 coins
- 3. A. In (4, 2) number of 3 rs coins is 2 and 2 rs coins is 4
- 4. C. In (4, 2) number of 3 rs coins is 2 and 2 rs coins is 4

$$3x + 5y = 20$$

- 5. A. Total possible combinations is two
- 6. D. In (5, 1) number of species with 3 fingers is 5 and 5 fingered is 1.
- 7. C. In (5, 1) number of species with 3 fingers is 5 and 5 fingered is 1.

8. $8x + 15y = 769$. Possible solutions are 6.

9. $9x + 17y = 284$. Possible solutions are 2.

10. $100 \leq 21K + 4 \leq 999$ ------(i)

$100 \leq 13M + 8 \leq 999$ ------(ii)

$$21K + 4 = 13M + 8$$

$$21K - 13M = 4$$
------(iii)

Also $K \geq 5$ and $M \geq 8$.

Find the lowest values of K and M satisfying (iii)

$$K = 7 \text{ and } M = 11$$

Now next K and M will jump with M and K coefficient respectively..

So K will take values 7, 20, 33, 46, ...

M will take 11, 32, 53, 74, ...

Hence No will be $21K + 4$ or $13M + 8$

$$151(7, 11)$$

$$424(20, 32)$$

$$697(33, 53)$$

for next K and M set No ll excede 999 so only 3 such

Nos. exists

11. Let $x = \text{No of boxes}$

$$y = \text{Bolts/box}$$

$$xy < 252$$

also,

$$(x+10)(y-5) < 252$$

$$xy = (x+10)(y-5)$$

$$2y - x = 10..$$

Now for least $x = 16$

$$y = 13$$

Hence required no is $x * y = 13 * 16 = 208$