

Q1. A workshop has 12 tables. Some have 3 legs (special design), and some have 4 legs (normal). Altogether, there are 41 legs. How many 3-legged tables are there?

- A. 5
- B. 7**
- C. 9
- D. 10

Q2. A school club has $\frac{4}{5}$ of a tray of cupcakes left from one batch and $\frac{2}{7}$ of a tray from another batch. They put them together and share equally among 10 classmates. How much of a full tray does each classmate get?

- A. $\frac{33}{35}$
- B. $\frac{38}{35}$
- C. $\frac{19}{175}$**
- D. $\frac{38}{175}$

Q3. You have 6 crayons—each a different color—and 6 matching color-coded slots arranged in order (Slot 1, Slot 2, ..., Slot 6). You test crayons in slot order (first Slot 1, then Slot 2, and so on), one crayon at a time, to see if it fits. However, if you have tried all but one of the crayons for a slot and none work, you do not test the last crayon. Instead, you conclude it must be correct and place it without testing.

In the worst-case scenario, how many total tests will you perform before all crayons are correctly placed?

- A. 21
- B. 17
- C. 15**
- D. 13

Q4. $X\Delta Y = X + 3 \cdot Y$ and $X\Omega Y = \frac{X}{4} \cdot Y$.

What will be $(52\Delta 24)\Omega 9$?

- A. 31
- B. 156
- C. 217
- D. 279**

Q5. Let X be the remainder when 3456 is divided by 12. Let Y be the remainder when 3456 is divided by 7. Find X+Y.

- A. 14
- B. 12
- C. 8
- D. 5**

Q6. One child drinks 250 ml of juice per day. How many children will drink 10 liters of juice in 5 days?

- A. 6
- B. 8**

- C. 10
- D. 12

Q7. A tank measures 25 cm by 20 cm by 40 cm. It is filled to $\frac{3}{5}$ of its capacity with water. How many liters of water are in the tank?

- A. 6
- B. 8
- C. 10
- D. 12

Q8. An ant walks at 10 cm/s

- A beetle crawls at 3 m/min
- A cockroach runs at 0.2 km/h

Which insect is the fastest?

- A. Ant
- B. Beetle
- C. Cockroach
- D. All are same

Q9. A simple password has 3 parts: a first digit (0–9), a second digit (0–9), and a special character chosen from 4 symbols (\$ # * !). How many different passwords are possible?

- A. 400
- B. 324
- C. 243
- D. 24

Q10. Calculate the sum: $5 + 10 + 15 + \dots + 95 + 100$.

- A. 2500
- B. 1750
- C. 1050
- D. 750

Q11. The letters in the word BRAINIAC were put in a box. What is the chance of getting letter A?

- A. $\frac{4}{8}$
- B. $\frac{2}{4}$
- C. $\frac{1}{4}$
- D. $\frac{1}{8}$

Q12. A bookstore received a batch of books. In the morning, they sold $\frac{1}{4}$ of the books, and in the afternoon, they sold 140 books. At the end of the day, $\frac{1}{6}$ of the books remained unsold. How many books did the store receive at the beginning?

- A. 376
- B. 320
- C. 284

D. 240

Q13. Dylan has 9 more pencils than Ryan. After he gives 11 pencils to Ryan, how many more pencils will Ryan have than Dylan?

- A. 22
- B. 20
- C. 13**
- D. 2

Q14. A train takes 3 minutes 20 seconds to travel 4 km. At this rate, how many km will the train travel in 1 hour?

- A. 72 km**
- B. 68 km
- C. 64 km
- D. 58 km

Q15. Daniel read 13 consecutive pages from a book. The sum of the page numbers is 663. What is the page number of the middle page?

- A. 49
- B. 50
- C. 51**
- D. 52

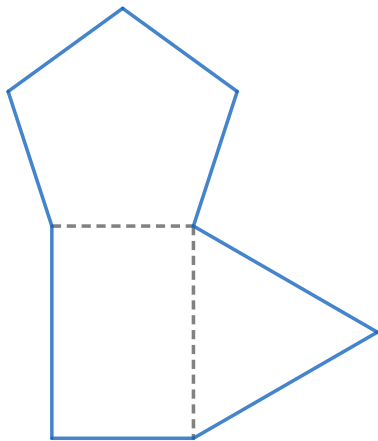
Q16. The area of a square is 256 square centimeters. A rectangle has the same perimeter as the square. The length of the rectangle is three times its width. What is the area of the rectangle in square centimeters?

(Answer: 192 square centimeters)

Q17. Four women can sew 12 shirts in 3 days. How many women are needed to sew 60 shirts in 5 days?

(Answer: 12 women)

Q18. The picture below is made up of a rectangle, an equilateral triangle, and a regular pentagon. Knowing that the perimeter of the figure is 22 meters and that all the measurements of the sides, in meters, are whole numbers, what is the area of the rectangle in square decimeters? Notice that all sides of a regular polygon are the same size.



(Answer: 800)

Q19. Michael forgot to pay his bill, and when he finally paid, he was charged 12% interest on the original amount. If Michael paid a total of \$8,960, what was his original bill?

(Answer: \$8000)

Q20. Three pens and two pencils weigh 160 grams. One pen and four pencils weigh 140 grams. How much do one pen and one pencil weigh in grams?

(Answer: 62 grams)