

# 12 Key Questions to Ace GEP Round 1



- Each practice question comes with an example before it.
- A step-by-step solution is shown under each example to help you understand.
- Read the example and solution carefully before you try the practice question.
- Remember to show your working clearly when solving the questions.
- Calculator is not allowed
- Finish all the questions in **40 minutes**.

Student Name	Time Used	Scores

### Example 1

$$K + M = 24$$

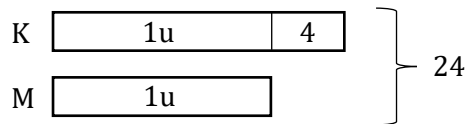
$$K - M = 4$$

What is K? What is M?

(2023 GEP Round 1)

#### Solution:

This question makes use of the concept of **sum and difference**. Based on the given relationships, we can draw a model to solve the problem:



$$2u: 24 - 4 = 20$$

$$1u: 20 \div 2 = 10$$

$$M = 10$$

$$K = 10 + 4 = 14$$

$$\text{Ans: } K = 14, M = 10$$

### Practice 1

Initially, Alex and Ben had a total of 50 oranges. After eating 4 oranges, Alex now has 12 oranges more than Ben, how many oranges did Alex have at first?

**Example 2**

Years ago, Mrs Lim was 3 times as heavy as Tom. Mrs Lim's weight remained the same but Tom gained 40 kg. Now, they weigh the same. How heavy is Mrs Lim today?

(2019 GEP Round 1)

**Solution:**

Make use of the **multiple** relationship to draw the model.

Mrs Lim 

1u	1u	1u
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Tom 

1u	40
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2u: 40

1u:  $40 \div 2 = 20$

3u:  $3 \times 20 = 60$

Ans: 60 kg

**Practice 2**

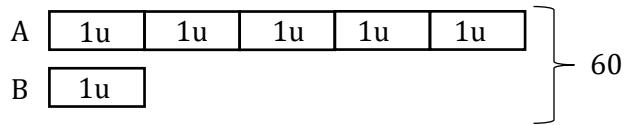
At first, Tom had 4 times as many marbles as Jerry. After Jerry bought another 27 marbles, they have the same number of marbles. How many marbles did Jerry have at first?

**Example 3**

Amy has 5 times as many books as Ben. They have a total of 60 books. How many books does Ben have?

(2024 GEP Round 1)

**Solution:**



$$6u: 60$$

$$1u: 60 \div 6 = 10$$

Ans: 10

**Practice 3**

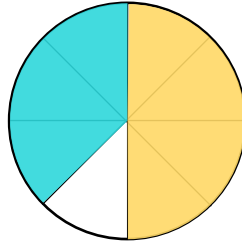
At first, Amy and Ben had \$68 altogether. After receiving \$8 from Ben, Amy now has 3 times as much money as Ben. How much money did Amy have at first?

**Example 4**

Alex started with one whole pizza. He gave away  $\frac{3}{8}$  of it and ate  $\frac{1}{2}$  of the pizza. What fraction of the pizza does he have left?

(2024 GEP Round 1)

**Solution:**



$$\frac{1}{2} = \frac{4}{8}$$

$$1 - \frac{3}{8} - \frac{4}{8} = \frac{1}{8}$$

Ans: 1

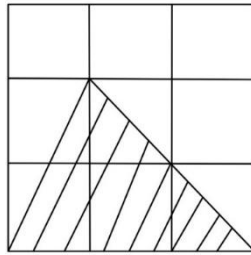
**Practice 4**

A pizza is cut into 12 slices. Emma ate  $\frac{1}{6}$  of the pizza and her brother Peter ate 2 slices more than her. Her father Mr. Lim ate  $\frac{1}{2}$  of the remaining pizza. How many slices of the pizza are left?

### Example 5

What fraction of the square is shaded? Give your answer in its simplest form.

(2023 GEP Round 1)



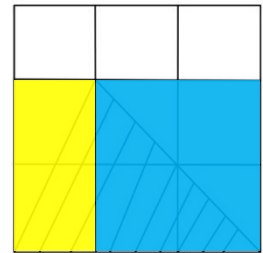
**Solution:**

Shaded triangle on the left =  $\frac{1}{2}$  of yellow rectangle =  $\frac{1}{2} \times 2 = 1$  small square

Shaded triangle on the right =  $\frac{1}{2}$  of blue rectangle =  $\frac{1}{2} \times 4 = 2$  small squares

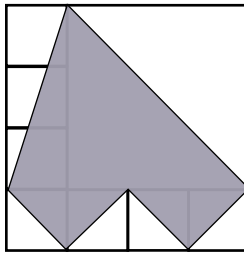
$$\frac{\text{shaded}}{\text{total}} = \frac{1 + 2}{9} = \frac{3}{9} = \frac{1}{3}$$

Ans:  $\frac{1}{3}$



### Practice 5

What fraction of the following figure is shaded? Give your answer in its simplest form.



**Example 6**

From 1 to 36, how many digits are there?

(2017 GEP Round 1)

**Solution:**

From 1 to 9, there are 9 one-digit numbers,

No. of digits:

$$9 \times 1 = 9 \text{ digits}$$

From 10 to 36, we need to exclude the numbers from 1 to 9.

There are  $36 - 9 = 27$  numbers.

Each number has 2 digits.

No. of digits:

$$27 \times 2 = 54 \text{ digits.}$$

Total:  $9 + 54 = 63$  digits

Ans: 63

**Practice 6**

Jason has a book with 50 pages. How many digits are used in numbering the pages?

**Example 7**

I'm a 3-digit even number that is divisible by 5. Each of my digits is different. The hundreds digit is 8 more than the tens digit. What number could I be?

(2019 GEP Round 1)

**Solution:**

(1) Divisible by 5: the last digit is 0 or 5

(2) Even number: last digit is even

From these 2 conditions, we know that the last digit is 0.

Hundreds digit – tens digit = 8

Since the tens digit cannot be 0 (No repeated digits).

Then, the tens digit is 1 and the hundreds digit is 9.

Ans: 915

**Practice 7**

Sam wrote down a 3-digit number that is divisible by 5 on the blackboard. The digit on the hundreds place is 2 more than the digit on the ones place. The digit on the tens place is 4 less than the digit on the hundreds place. What is this number?



**Example 8**

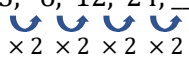
(a) 3, 6, 12, 24, \_\_, 96, 192

(2017 GEP Round 1)

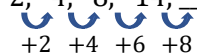
(b) 2, 4, 8, 14, \_\_, 32, 44

(2024 GEP Round 1)

**Solution:**

 (a) 3, 6, 12, 24, \_\_, 96, 192  
  
 $\times 2 \quad \times 2 \quad \times 2 \quad \times 2$ 

 Missing number =  $24 \times 2 = 48$ 

 (b) 2, 4, 8, 14, \_\_, 32, 44  
  
 $+2 \quad +4 \quad +6 \quad +8$ 

 Missing number =  $14 + 8 = 22$ 

Ans: (a) 48 (b) 22

**Practice 8**

Find the missing numbers in the following sequence.

(a) 2, 5, 8, 11, \_\_, \_\_

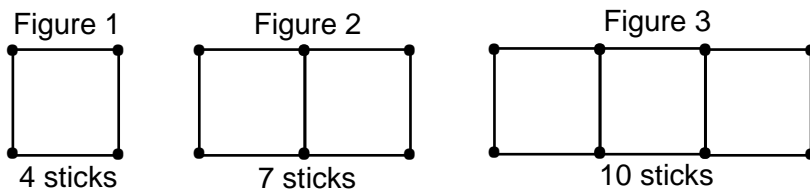
(b) 1, 3, 7, 13, 21, \_\_, \_\_

(c) 3, 6, 9, 18, 21, 42, \_\_, \_\_

### Example 9

How many sticks are in Figure 40?

(2018 GEP Round 1)



### Solution:

Every time, there is a new figure, we need to add 3 more.

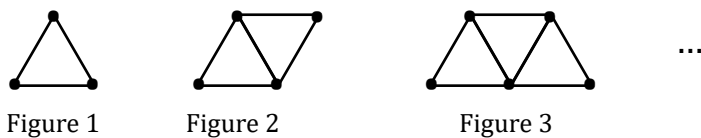
There are  $40 - 1 = 39$  new figures.

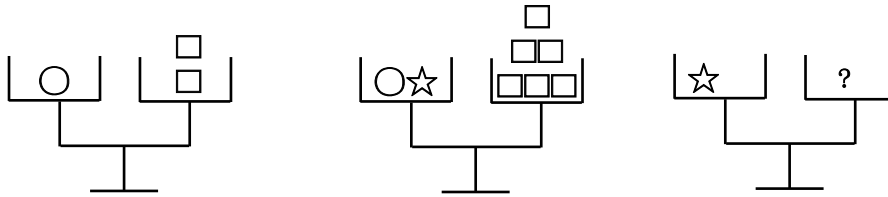
Fig. 1	Fig. 2	Fig. 3	Fig. 4	...	Fig. 40
4	$4+3$	$4+2 \times 3$	$4+3 \times 3$	...	$4+39 \times 3=121$

Ans: 121

### Practice 9

Find the number of sticks used in the 30<sup>th</sup> figure.



**Example 10**


$$? = \underline{\quad} \bigcirc$$

(2018 GEP Round 1)

**Solution:**

$$\text{Since } 1 \bigcirc = 2 \square,$$

$$1 \star = 6 - 2 = 4 \square,$$

$$1 \star = 4 \div 2 = 2 \bigcirc$$

Ans: 2

**Practice 10**

Given that

$$\triangle \triangle = \bigcirc \bigcirc \bigcirc$$

$$\bigcirc \bigcirc = \square$$

$$\text{Then } \square + \square + \square = ? \triangle$$

### Example 11

In the following, all the different letters stand for different digits. Find the 4-digit number  $\overline{CDD\overline{B}}$ .

(2019 GEP Round 1)

$$\begin{array}{rcccc} & & A & B & C \\ + & A & B & C & \\ \hline C & D & D & B & \end{array}$$

**Solution:**

From thousands place,  $C = 1$ .

Ones place,  $B = 1+1=2$ .

Tens place,  $D = 2+2=4$ .

Hundreds place,  $A+A=14$ .

$A=7.$

Ans: 1442

## Practice 11

In the addition below, same letter stands for the same digit. Different letters stand for different digits. Which number does  $\overline{ABCD}$  represent?

				A
			A	B
		A	B	C
+	A	B	C	D
<hr/>				
	7	5	4	0

### Example 12

There 4 more girls than boys in a class. Each girl has one eraser. Each boy has 3 erasers. If there are a total of 32 erasers in the class, how many boys and girls are there respectively?  
(2019 GEP Round 1)

#### Solution:

Let 1 boy and 1 girl form 1 group. Each group has  $1 + 3 = 4$  erasers.

G G G ..... G G | G G G G

B B B ..... B B

Those 4 extra girls have  $4 \times 1 = 4$  erasers.

The remaining children have  $32 - 4 = 28$  erasers.

No. of groups =  $28 \div 4 = 7$  groups

No. of boys: 7

No. of girls:  $7 + 4 = 11$

Ans: 7 boys and 11 girls

### Practice 12

There are some cats and dogs in a shelter. Each dog eats 4 bowls of food a day, and each cat eats 2 bowls. If we swap the number of cats with the number of dogs, they would eat 8 more bowls. Given that a total of 62 bowls of food are needed each day, how many cats and dogs are there respectively?

建议同学们在学习完每道引例后，限时 40 分钟完成整份练习，并在解题过程中写下清晰的步骤和思考过程。真正掌握了这 12 道题的核心方法，面对正式考试时定能更加从容应对。

完成练习后，欢迎添加下方联系方式，与我获取详细的题目解析。对于不理解题目，我们还提供一对一答疑服务，助力大家高效突破！

After studying the example questions, students are encouraged to **complete all 12 questions within a 40-minute time limit**, and write down their full workings and thought process.

After completing the exercises, feel free to add the contact info below to receive detailed solutions for each question. For any question you don't fully understand, we also offer **1-on-1 support** to help you break through with clarity and confidence!



如果您想获取更多关于袋鼠学 GEP 备考的资讯、讲解视频、冲刺资料，欢迎加入我们三年级的 GEP 备考交流群组：

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