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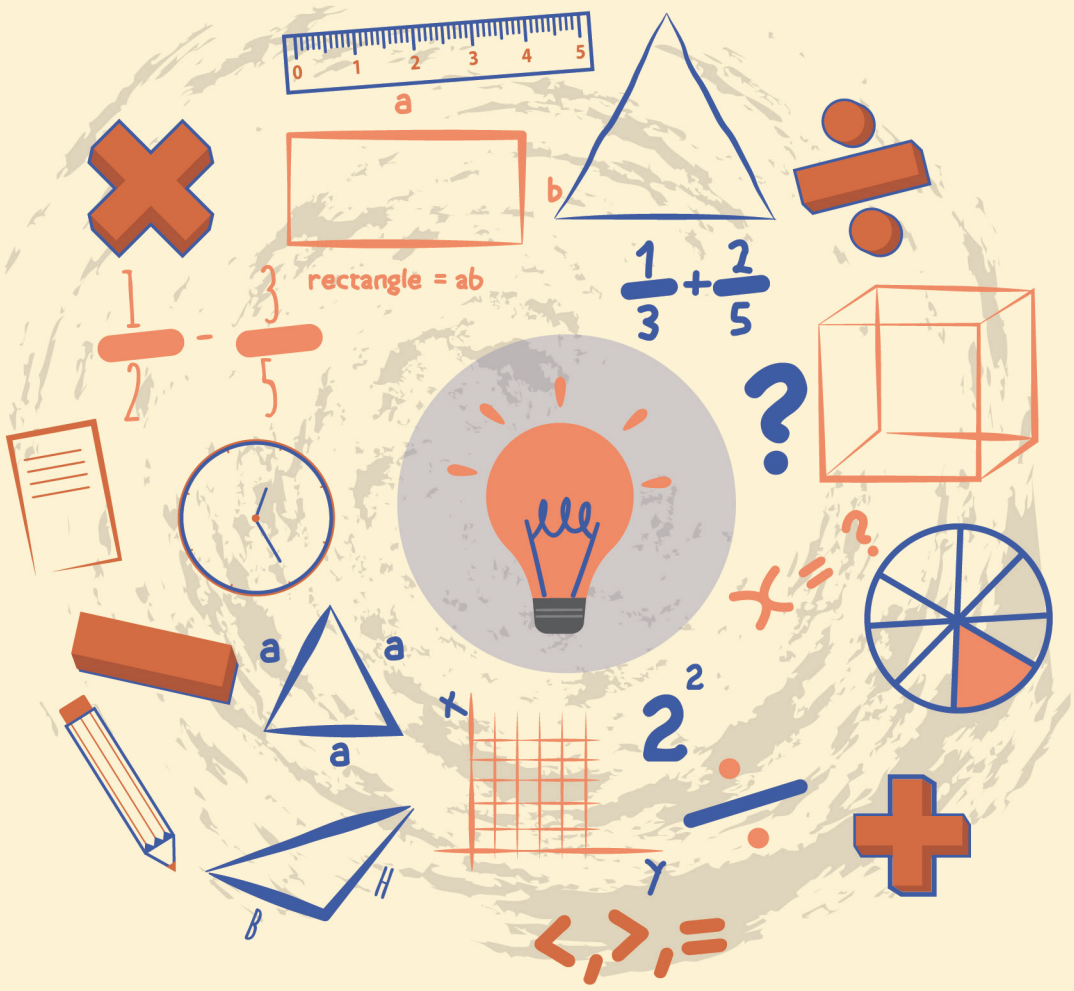
11+ Maths

Algebra

COURSE HANDBOOK



Effective Crash Course

• Practice Questions • Homework • Past Paper Questions

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CHAPTER I

Practice Questions

7 Solve:

(i) $4x + 7 = 27$

(ii) $\frac{x}{4} - 2 = 5$

(iii) $3x + 7 = 25$

(iv) $54 = 2x + 8$

8 Jane had £25 to spend on six chocolates. After buying them she had £13. How much did each chocolate cost?

9 Laura had 20 apples. After distributing it between her seven friends, she is left with 6 apples. How much apple did she distribute to each of her friends?

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Practice Questions

10 Charlie had £35 to spend on four packs of chips. After buying them he had £7. How much did each pack of chips cost?

11 Hannah rented a car. It costs £33 plus £5 per hour. If Hannah paid £63 then she rented the car for how many hours?

12 Catharine spent half of her pocket money going to the ice skating. Afterwards, she mowed the lawn and earned 7 Pounds. What is her pocket money if she ended with 13 pounds?

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Homework

8 Solve the following equations for x and match them with correct answers: [2]

(i) $x + 4 = 9$ $x = 12$

(ii) $x - 5 = 12$ $x = 5$

(iii) $4x = 48$ $x = 36$

(iv) $\frac{x}{3} = 12$ $x = 17$

9 After eating at the McDonalds, Ruby, Bethany, and Scarlett decided to divide the bill evenly. If each person paid 21 pounds, what was the total of the bill? [2]

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Homework

10 Sally is baking cookies. The recipe calls for 10 cups of flour. She already put in 4 cups. How many more cups does she need to add? [2]

11 There were 12 tulips in the vase. Jessica cut some more tulips from her flower garden. There are now 15 tulips in the vase. How many Tulips did she cut? [2]

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Practice Questions

4 The sum of two numbers is 50, and one of them is 14 more than the other. What are the two numbers?

5 The spear and axe that you see are together worth 100 copper pieces. The spear is worth 24 copper pieces more than the axe. How much is the axe worth?

6 One number is 7 more than another. The sum of both the numbers is 77. What are the two numbers?

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Practice Questions

9 The first side of a triangle is twice the second side. The third side is twice the first side. If the perimeter of the triangle is 42 cm, how long is each side?

10 The width of a rectangle is 10 cm less than the length of the rectangle. If the perimeter of the rectangle is 80 cm, find the length and width of the rectangle.

11 Sam has twice as many chocolates as Mary. Mary has four chocolates less than Sam. How many chocolates does Sam have with him?

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Keypoints

Word problems	Algebraic Expression
the **sum** of 3 and a number	n+3 or 3+n
7 **more** than a number	n+7 or 7+n
a number **plus** 2	n+2 or 2+n
a number **increased** by 8	n+8 or 8+n
add 9 to a number	n+9 or 9+n
Jon is 9 years **older than** mik who is 'n' years old	n+9
's' is **raised** by 120	s + 120
a number **minus** 6	n – 6
9 **less than** a number	n – 9
subtract 10 from a number	n – 10
a number **decreased** by 5	n – 5
a is **twice** that of b	a = 2b
a is **thrice** that of b	a = 3b
8 **times** a number **increased** by 4	8n + 4
8 **times** the **sum** of a number and 4	8(n + 4)

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Keywords

a) Consecutive numbers
b) Even Numbers
c) Variable
d) Constant
e) Odd Numbers
f) Increased
g) Decreased
h) Exceeds

Practice Questions

4 The sum of one-third and one-fourth of a number is 7. What is this number?

5 A number is decreased by $\frac{1}{3}$ of the same number. The result is 12. Find the number.

6 A number is increased by $\frac{3}{4}$ of the same number, and the result is 14. What is the number?

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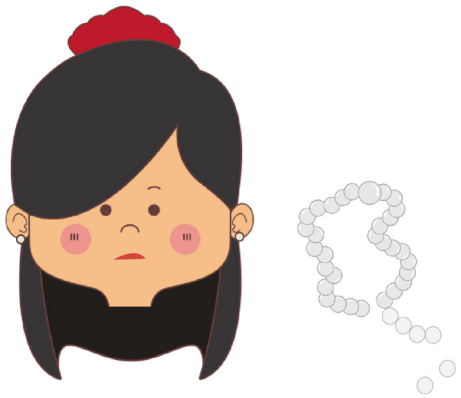
Practice Questions

11 Eva went to shopping and spent half of her money on pearl necklace. She spent a quarter of the remaining money to eat. If she was left with £12, what was the amount she had with her before she went to shopping.



12 Daniel spends $\frac{1}{4}$ of his weekly income on food and $\frac{1}{8}$ on shoes. If he is left with £50 each week. Find his weekly income.

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Homework

1 The difference between two numbers is 15 and their sum is 33. What are the numbers? [2]

2 I think of two numbers. If I add them together, I get 12. If I multiply one of them by four and the other by two and then add them, I get thirty-two. What are the numbers? [2]

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