Algebraic Equations in 1 Unknown

Conventional Questions

1. [13-14 Standardized Test 1]

Solve $3(4+3y)=\frac{10-y}{7}$. **(3 marks)**

2. [13-14 Final Exam Q5]

(a) Solve $\frac{3m-2}{4}-10=\frac{5m}{6}$. **(3 marks)**

(b) Hence, or otherwise, solve $\frac{3(5n-26)-2}{4}-10=\frac{5(5n-26)}{6}$. **(2 marks)**

3. [13-14 Mid-year Exam]

In 2006, the population of Kwun Tong was 261,000 less than twice the population of Wong Tai Sin. The sum of the population of these two districts was 1,011,000. Find the population of Kwun Tong. **(3 marks)**

4. [13-14 Mid-year Exam]

Solve $\frac{3}{2}-\frac{9x-1}{4}=\frac{1-4x}{6}$. **(3 marks)**

5. [14-15 Mid-year Exam #4]

The total number of \$10-notes and \$20-notes is 100. The total value of the notes is \$1760. Find the number of \$10-notes and \$20-notes respectively. **(4 marks)**

6. [14-15 Mid-year Exam #8]

Solve $\frac{x+1}{2}-\frac{1-x}{5}=\frac{x}{3}$. **(3 marks)**

7. [14-15 Mid-year Exam #13]

Refer to **Table 1**, A and B are two numbers. Twice the sum of the numbers in column 1 equals three times the sum of that in column 2.

(a) Express B in terms of A. **(2 marks)**

(b) If the sum of the numbers in row 1 is twice the sum of that in row 2, write down the value of B. **(1 mark)**

	Column 1	Column 2
Row 1	55	A
Row 2	B	30

Table 1

8. [15-16 Mid-year Exam Q6]

The length of a rectangle is 5 cm more than twice of its width. Find the width and the length of the rectangle if the perimeter of the rectangle is 70 cm. **(4 marks)**

9. [15-16 Mid-year Exam Q8]

Solve $\frac{x}{2} - 2(x-4) = \frac{x}{3} - 3$. **(3 marks)**

10. [16-17 Mid-year Exam Q6]

Solve the following equations.

(a) $0.3x + 5 = x - 0.2x + 1$. **(2 marks)**

(b) $-5 + \frac{5}{6}w = -w$. **(3 marks)**

11. [16-17 Mid-year Exam Q10]

If the sum of three consecutive odd numbers is 279, find the smallest number. **(3 marks)**

12. [16-17 Final Exam Q3]

(a) The difference of two numbers is 5 and their sum is 39. Find the smaller number. **(2 marks)**

(b) Solve $\frac{2y-1}{7} = 3$. **(2 marks)**

13. [17-18 Standardized Test #3]

(a) Solve $-5(x-6) = 30$. **(2 marks)**

(b) Solve $2 - \frac{x}{3} = \frac{3x}{7}$. **(3 marks)**

14. [17-18 Standardized Test #7]

Anna, Betty and Chloe have 100 stickers in total. The number of stickers Anna has is three times of the number Betty has. The number of stickers Chloe has is 30 more than the number Betty has. Anna claims that she has the greatest number of stickers among three of them. Do you agree? Set up an equation and solve it to support your answer. **(3 marks)**

15. [17-18 Mid-year #2]

Solve the following equations.

(a) $3(a-7) = -27$ **(2 marks)**

(b) $\frac{b}{3} + \frac{2b}{15} = 14$ **(2 marks)**

(c) $2(30-c) - 5(c-7) = -24$ **(3 marks)**

16. [17-18 Mid-year #6]

There were n eggs in a refrigerator. After using 14 eggs to make a cake, Alice bought $2n$ more eggs. If there are 34 eggs now, find the value of n by setting up an equation. **(2 marks)**

17. [17-18 Final #3]

Ann's age is 3 times her brother's age. If the difference of their ages is 4, find their ages.

(3 marks)

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