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(1) Algebra expressions

algebra expressions

A coefficient is the numerical factor of a term containing constant and variables. For example, in the term $2x$, 2 is the coefficient.

Like terms are terms that have the same variables raised to the same exponents. For example, $3x$, $2x$ and $-9x$ are like terms

1 Find the coefficient of x in each of the following:

1) $3x$

2) $2+5x$

3) $-\frac{1}{2}x+3$

2 State the like terms in:

1) $y+2z+4z-5$

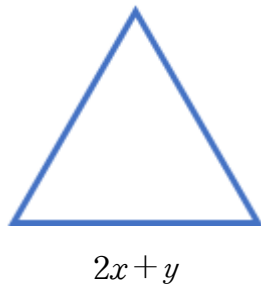
2) $-5x+3+2x-1$

3 Simplify

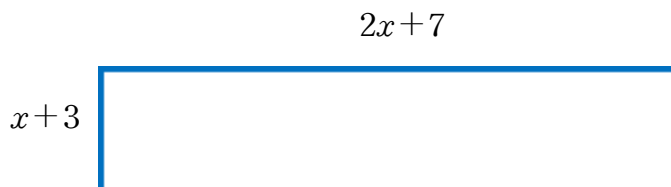
$3x+4x-2x =$

1**(1) Algebra expressions**

- 4** Shown is a equilateral triangle. The length of each side is $2x + y$.
Find an expression, in terms of x and y , for the perimeter of the triangle.



- 5** Shown is a rectangle. Find an expression, in terms of x , for the perimeter of the rectangle.



- 6** Expand and simplify

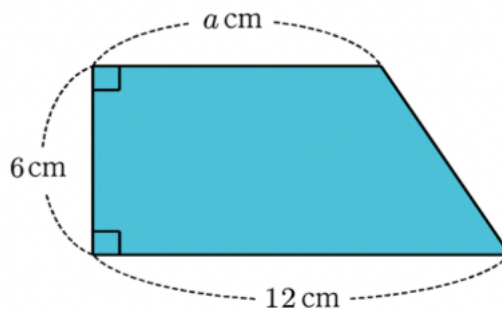
$$3(4x - 1) - 2(x + 4) =$$

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(1) Algebra expressions

Name: _____

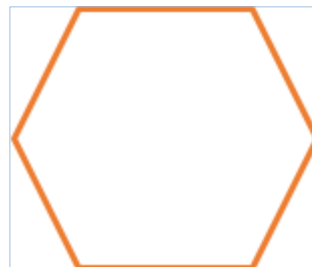
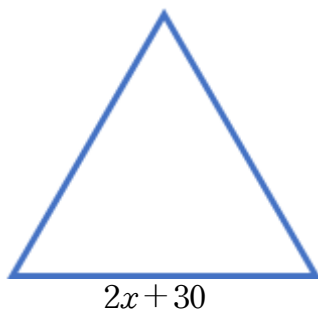
7 Shown is a trapezium. Find an expression, in terms of x and y , for the area of the trapezium.



8 simplify

$$\frac{3x + 12}{3} - \frac{5x - 10}{5} =$$

9 Here is an equilateral triangle and a regular hexagon. The perimeter of the two shapes are equal. Find an expression for the length of each side of the regular hexagon.



(1) Algebra expressions

10 Here are five straight rods. All measurements are in centimeters. The total length of the five rods is L cm. Find a formula for L in terms of a . Write your formula as simply as possible.



11 simplify

$$\frac{1}{2}(4x - 6) - \frac{1}{3}(9x - 12)$$

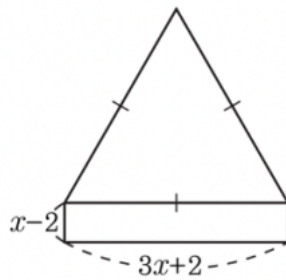
12 A desk costs x pence. A chair costs 10 pence more than the desk.

(1) Write an expression, in terms of x , for the cost of a chair.

(2) Write an expression,
in terms of x , for the total cost of 3 chairs and 2 desks.

1**(1) Algebra expressions**

13 When a regular triangle and a rectangle are attached as shown in the picture to form a pentagon, what is the perimeter of the pentagon.



1**(1) Algebra expressions answer sheet**

1 (1) 3 (2) 5 (3) $-\frac{1}{2}$

2 (1) $2z$ and $4z$ (2) $-5x$ and $2x$, 3 and -1

3 $5x$

4 $6x + 3y$

5 $6x + 20$

6 $10x - 11$

7 $3a + 36$

8 6

9 $x + 15$

10 $5a + 3$

11 $-x + 1$

12 (1) $x + 10$ (2) $5x + 30$

13 $11x + 2$