

1) Write the algebraic expressions for each of the following questions:

a) There are n children in a queue. 4 more children join the queue. How many children are in the queue now?

b) There are n children in a queue. 3 children leave the queue. How many children are left in the queue?

c) There are 3 classes with n children in each class. How many children are there altogether?

d) I have m marbles in a bag. I put in another 6 marbles. How many marbles are now in the bag?

e) There are p pencils in a pencil case. I take one pencil out. How many pencils are left in the pencil case?

f) I have 25 pencil cases. There are p pencils in each pencil case. How many pencils do I have altogether?

g) Juan has 5 fewer hats than Maria, and Clarissa has 3 times as many hats as Juan. If Maria has n hats, how many hats does Clarissa have?

h) The sum of a number and five.

i) The difference between two numbers.

j) Two times a number.

k) x squared.

l) x cubed.

m) x to the power of four.

n) Kathryn thinks of a number. She adds 3 and then doubles the answer. What is her answer?

o) The cost of hiring a coach is \$40 plus \$2 for every mile travelled. Write down an expression for the cost in \$ of a journey of x miles.

2) Write each phrase as an algebraic expression.

| Phrase | Expression |
|--------------------------------------|------------|
| Five more than twice a number | |
| The product of a number and 6 | |
| Seven divided by twice a number | |
| Three times a number decreased by 11 | |

| | |
|--------------------------------------|--|
| Seven subtracted from a number | |
| Two different numbers added together | |
| A number multiplied by itself | |
| Three less than a number | |
| An even number | |
| An odd number | |
| The square root of a number | |

3) Here are some more words problems to practise.

- Think of a number, add two, double that answer and then subtract six.
- The sum of two consecutive numbers.

4) Write each phrase as an algebraic expression.

| Phrase | Expression |
|--|------------|
| five more than twice a number | |
| the product of a number and 6 | |
| four divided by twice a number | |
| three times a number decreased by 11 | |
| Fifteen less than twice a number | |
| Three times a number, increased by seventeen | |
| Thirty divided by seven times a number | |

5) A small company has \$1000 to distribute to its employees as a bonus. How much money will each employee get?

$x \rightarrow$

6) An electrician charges \$45 per hour and spends \$15 a day on gasoline. Write an algebraic expression to represent his earnings for one day.

$x \rightarrow$

7) Simplify the expressions:

a) $x + 5x + x =$

b) $x - 5x + x =$

c) $-2x + 5x^2 + 4x^2 - 5x =$

d) $5x^3 + 4x^2 - 6x^2 =$

- 8)** Bridget has x hair bows. Bridget's sister has 48 more hair bows than Bridget. Write the expression that shows how many hair bows Bridget's sister has.
- 9)** Clara ate x out of 35 gumdrops. Write the expression that shows how many gumdrops Clara has left.
- 10)** Bruce bought x T-shirts. The shirts came in 6 packages. Write the expression that shows how many T-shirts were in each package.
- 11)** Carmen has 49 more elastic bands than Pam. Pam has x elastic bands. Choose the expression that shows how many elastic bands Carmen has.
- 12)** Kiera has x pieces of candy. She gives away 98 of the pieces. Choose the expression that shows the number of pieces of candy Kiera has left.