

Identify and represent sets

1 Are the two sets the same or different? Tick your answers.
Give reasons for your answers.

a) $A = \{1, 2, 3, 4\}$ $B = \{4, 3, 2, 1\}$ **same** **different**

b) $A = \{-1, -2, -3, -4\}$ $B = \{1, 2, 3, 4\}$

c) $A = \{\text{even numbers}\}$ $B = \{2, 4, 6, 8\}$

d) $A = \{\text{names of pets}\}$ $B = \{\text{types of pets}\}$

e) $A = \{\text{letters in word "scare"}\}$ $B = \{\text{letters in word "cares"}\}$

f) $A = \{\frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \frac{5}{5}\}$ $B = \{0.2, 0.4, 0.6, 0.8, 1\}$

2 List the elements of the sets.
Use correct set notation.

a) Set A: months of the year

b) Set B: quadrilaterals with at least two right angles

c) Set C: factors of 27

d) Set D: square numbers less than 100

e) Set E: letters in "mathematics"

3 $\xi = \{\text{letters in the alphabet}\}$

a) $A = \{\text{letters in "symmetry"}\}$
List the elements of set A.

b) $B = \{\text{letters in "proportion"}\}$
List the elements of set B.

c) Which letters are in both set A and set B?



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$\xi = \{\text{integers between 1 and 20 inclusive}\}$

List the elements of the sets.

a) $A = \{\text{odd numbers}\}$

b) $B = \{\text{even numbers}\}$

c) $C = \{\text{multiples of 8}\}$

d) $D = \{\text{factors of 40}\}$

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Describe the sets in words.

a) $\{4, 8, 12, 16, 20\}$

b) $\{-4, -8, -12, -16, -20\}$

c) $\{a, t, h, m, s\}$

d) $\{1, 3, 7, 21\}$

e) $\{35, 70, 105, 140, 175\}$

Compare answers with a partner.

Do any of the sets have more than one solution?

6

$\xi = \{\text{integers between 1 and 50 inclusive}\}$
 $A = \{\text{factors of 100}\}$ $C = \{\text{even numbers}\}$
 $B = \{\text{multiples of 5}\}$ $D = \{\text{odd numbers}\}$

a) List the elements in the sets.

A _____

B _____

C _____

D _____

b) List the elements that are in both set A and set B.

c) Are any elements in both set C and set D? Explain your answer.

Compare answers with a partner.

