## Venn Diagrams: Global Habitats

NAME:

CLASS:

DATE:

## Basic

1) Form four sets from the following and describe each set in words:

Monday, 4pm, Thursday, 20p, 3am, noon, £1.35, April, 50p, August.
2) Put the following numbers into the Venn diagram below: $1,2,3,4,6,8,9,12,15,18,21,24$.

3) Put the following numbers into the Venn diagram below: $-9,-7,-5,2,3,5,9,17,77,111$.


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## Core

1) Give a possible universal set for each of the following:
a) $\{a, b, c, d\}$
b) $\{1,3,5,7,9\}$
c) $\{$ Spain, France, Holland\}
2) Draw a Venn diagram to show each of the following:
$E=\{$ vowels in the English alphabet $\} ; A=\{$ the first three vowels $\}$

3) Illustrate each of the following on a Venn diagram:
$E=\{1,2,3,4,5,6\} ; P=\{1,2,3\} ; Q=\{4,5\}$


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## Core

4) From the Venn diagram below, list the members of the following sets:
a) $\operatorname{Set} A$
b) Set B
c) The set of elements that belong to both $A$ and $B$
d) The set of elements that belong to either $A$ or $B$ (or both $A$ and $B$ )
e) The set of elements that do not belong to $A$ or $B$

5) $D=\{$ prime numbers less than 12$\} ; F=\{$ even numbers less than 12$\} ; W=$ whole numbers.
a) List $D \cap F$
b) List $D \cap W$

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## Advanced

1) In the diagram below, $E=\{$ students selected from a junior class\}; $M=\{s t u d e n t s$ who like maths\}; $P=$ \{students who like physics\}. Each letter represents a student.

a) How many students like maths?
b) How many students like physics?
c) How many students like both maths and physics?
d) How many students like maths but not physics?
e) How many students like physics but not maths?
f) How many students like neither maths nor physics?
g) How many students are in set $E$ altogether?
2) $A=\{$ first five odd numbers $\} ; B=\{7,9,11\} ; C=\{1,2,3,4\}$
a) List $A \cap B$
b) List $\mathrm{A} \cap \mathrm{C}$

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## Advanced

3) In the following Venn diagram:
a) List $A \cap B$
b) List $(A \cap B)^{\prime}$


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## ANSWERS

## Basic

1) $\{$ Monday, Thursday $\}=\{$ days from the list $\},\{4 \mathrm{pm}, 3 \mathrm{am}$, Noon $\}=\{$ times from the list $\},\{20 \mathrm{p}, £ 1.35$, $50 \mathrm{p}\}=\{$ money from the list $\},\{$ April, August $\}=\{$ months from the list $\}$
2) 


3)

1a) $\{$ letters of the alphabet $\}$
b) \{odd numbers\}
c) \{countries of Europe\}
2)


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## ANSWERS


4) a) $A=\{1,2,3,4\}$
b) $B=\{3,4,5,6,7\}$
c) $\{3,4\}$
d) $\{1,2,3,4,5,6,7\}$
e) $\}$
5) a) $\{2\}$
b) $\{2,3,5,7,11\}$

| Advanced |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1) a) 6 b) 7 c) 3 d) 3 e) 4 f) 4 | g) 14 |  |  |  |  |
| 2) a) $\{7,9\}$ | b) $\{1,3\}$ |  |  |  |  |
| 3) a) $\{r$, s $\}$ | b) $\{p, ~ q, t, u, v\}$ |  |  |  |  |

