

1.4 Homework

Marks Available : 20

These questions are harder than those of the previous exercise.
If you get stuck on one, miss it out and come back to it later.
You are NOT expected to get all these questions correct !

Question 1

In the spirit of the introduction, give an alternative description of each of the following sets;

(i) $P = \{ \text{Snow, rain, drizzle, hailstones, ... } \}$

[1 mark]

(ii) $I = \{ \dots, -3, -2, -1, 0, 1, 2, 3, \dots \}$

[1 mark]

(iii) $P = \{ 3, 6, 9, 12, 15, 18, 21, \dots \}$

[1 mark]

(iv) $F = \{ \text{Factors of 8} \}$

[1 mark]

(v) $B = \{ 0, 1, 10, 11, 100, 101, 110, 111, 1000, \dots \}$

HINT : Numbers used by computers.

[1 mark]

(vi) $C = \{ \text{Cube numbers} \}$

HINT : Give the first ten then put ...

[1 mark]

(vii) $P = \{ \text{Palindromic words} \}$

[1 mark]

(viii) $F = \left\{ A = \pi r^2, A = \frac{1}{2}bh, A = lb, A = \frac{1}{2}(a + b)h, \dots \right\}$

[1 mark]

(ix) $M = \{ \text{Famous mathematicians} \}$

[1 mark]

(x) $M = \{ \text{Multiples of 7} \}$

HINT : Give the first ten then put ...

[1 mark]

(xi) $S = \{ \text{leech, clew, tack, luff, telltale, head, foot, ...} \}$

[1 mark]

(xii) $D = \{ \text{breeds of gundog} \}$

HINT : Google if necessary.

[1 mark]

(xiii) $P = \{ \text{triangle, square, pentagon, hexagon, ...} \}$

[1 mark]

(xiv) $Q = \{ \text{four sided shapes} \}$

HINT : Name as many as you can.

[1 mark]

(xv) $A = \{ \text{acute, obtuse, reflex} \}$

[1 mark]

(xvi) $K = \{ \text{monkey fist, reef, granny, bowline, half hitch, sheet bend, ...} \}$

[1 mark]

(xvii) $M = \{ \cdot, \cdot\cdot, \cdot\cdot\cdot, \cdot\cdot\cdot\cdot, \cdot\cdot\cdot\cdot\cdot, \cdot\cdot\cdot\cdot\cdot\cdot, \cdot\cdot\cdot\cdot\cdot\cdot\cdot, \cdot\cdot\cdot\cdot\cdot\cdot\cdot\cdot, \dots \}$

[1 mark]

(xviii) $F = \{ 1, 2, 3, 6, 9, 18 \}$

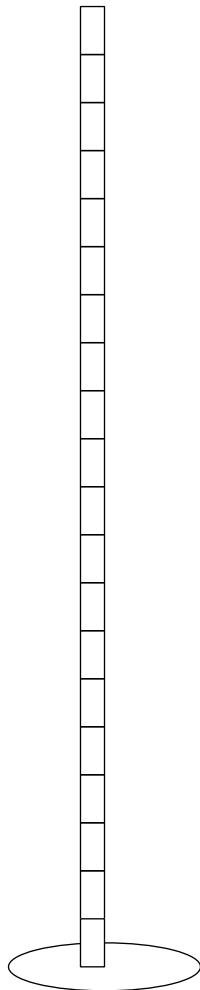
[1 mark]

(**xix**) $M = \{ 13, 26, 39, 52, 65, 78, \dots \}$

[1 mark]

(**xx**) $T = \{ \sin, \cos, \tan, \dots \}$

[1 mark]



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Teachers may obtain detailed worked solutions to the exercises by email from mhh@shrewsbury.org.uk