Exercise. 1.1 Which of the following are sets?

$(d)\,\{1,\{2\},3\}$ [correct ✓]

(e) $\{1,2,a,b\}$ [*correct*✓]

Exercise. 1.3 Determine the cardinality of each of the following sets:

(a) A=$\{1,2,3,4,5\}$

$|A|=5$ [correct ✓]

(b) B=$\{0,2,4,...,20\}$

$|B|\ =11$ [correct ✓]

(c) C = $\{25,26,27...,75\}$

$|C|=\ 51$ [correct ✓]

(d) D = $\{\{1,2\},\{1,2,3,4\}\}$

$|D|=\ 2$ [correct ✓]

(e) E = $\{\emptyset\}$

$|E|=1$ [correct ✓]

(f) $F=\{2,\{2,3,4\}\}$

$|F|=2$ [correct ✓]

Exercise. 1.5

(a) A=$\{-1,-2,-3,\ldots\}$

$A=\{x=-y,y\in\mathbb{N}\}$ [correct ✓]

(b) B=$\{-3,-2,\ldots,3\}$

$B=\{x\in\mathbb{Z}:-3\leq x\leq 3\}$ [correct ✓]

(c) $C=\{-2,-1,1,2\}$

$C=\{x\in Z:-2\leq x\leq 2,x\neq 0\}$ [correct ✓]

Exercise. 1.7

(a) $A=\{\ldots,-4,-1,2,5,8,\ldots\}$

$A=\{3x-1:x\in\mathbb{Z}\}$ [correct ✓]

(b) $B=\{\ldots,-10,-5,0,5,10,\ldots\}$

$B = \{5x : x \in \mathbb{Z}\}$ [correct ✓]

(c) $C = \{1, 8, 27, 64, 125, \ldots\}$

$C = \{x^3 : x \in \mathbb{N}\}$ [correct ✓]

Exercise. 1.9

For $A = \{2, 3, 5, 7, 8, 10, 13\}$, let $B = \{x \in A : x = y + z, y \in A, z \in A\}$ and $C = \{r \in B : (r + s) \in B$ for some s∈B$\}$. Determine C

$B = \{5, 7, 8, 10, 13\}$ [correct ✓]

$C = \{10, 13\}$ *[incorrect]* $C = \{5, 8\}$ *(I was looking for $r + s \in B$, should have been looking for r)*