

3.3 Answers to 3.2 Exercise

Answer 1

- (i) T
- (ii) T
- (iii) F
- (iv) T
- (v) T

- (vi) T
- (vii) F
- (viii) F
- (ix) T
- (x) F

$$7 \times 13 = 91$$

[10 marks]

Answer 2

- (i) F
- (ii) T
- (iii) T
- (iv) T
- (v) F

- (vi) F
- (vii) F
- (viii) T
- (ix) T
- (x) F

[10 marks]

Answer 3

- (i) T
- (ii) T
- (iii) F
- (iv) F
- (v) F

- (vi) F
- (vii) F
- (viii) T
- (ix) F
- (x) T

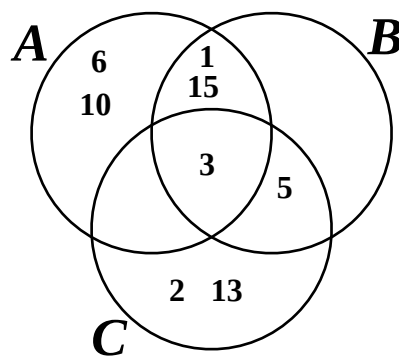
[10 marks]

Answer 4

$$A = \{ 1, 3, 6, 10, 15 \}$$

$$B = \{ 1, 3, 5, 15 \}$$

$$C = \{ 2, 3, 5, 13 \}$$



[10 marks]

Answer 5

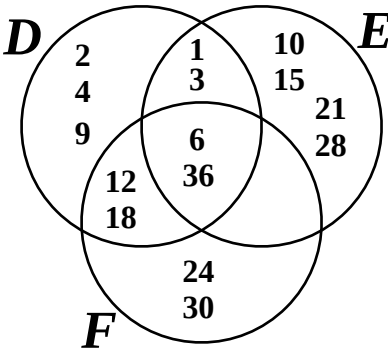
1	5	9	13	17
21	25	29	33	37
41	45	49	53	57
61	65	69	73	77
81	85			

- | | | | |
|---------|---|----------|---|
| (i) | T | (vi) | F |
| (ii) | T | (vii) | F |
| (iii) | T | (viii) | F |
| (iv) | T | (ix) | F |
| (v) | T | (x) | T |

[10 marks]

Answer 6

$D = \{ 1, 2, 3, 4, 6, 9, 12, 18, 36 \}$
 $E = \{ 1, 3, 6, 10, 15, 21, 28, 36 \}$
 $F = \{ 6, 12, 18, 24, 30, 36 \}$



[10 marks]

Answer 7

2	4	8	16
32	64	128	256
512	1024	2048	4096
8192	16384	32768	65536

- | | | | |
|---------|---|----------|---|
| (i) | F | (vi) | T |
| (ii) | F | (vii) | T |
| (iii) | T | (viii) | F |
| (iv) | T | (ix) | F |
| (v) | T | (x) | T |

[10 marks]

Answer 8

3	6	12	24	48
	96	192	384	768
	1536	3072	6144	12288

- | | | | |
|---------|---|----------|---|
| (i) | T | (vi) | T |
| (ii) | T | (vii) | T |
| (iii) | F | (viii) | T |
| (iv) | F | (ix) | F |
| (v) | T | (x) | T |

[10 marks]**Answer 9**

	1	4	9	16	25
100	81	64	49	36	
	121	144	169	196	225
400	361	324	289	256	
	441	484	529	576	625
900	841	784	729	676	
	961	1024	1089	1156	1225
1600	1521	1444	1369	1296	
	1681	1764	1849	1936	2025
2500	2401	2304	2209	2116	
	2601	2704	2809	2916	3025
3600	3481	3364	3249	3136	
	3721	3844	3969	4096	4225

[4 marks]

Square numbers never end in 2, 3, 7 or 8

[4 marks]**Answer 10**

Triangular numbers never end in a 2, 4, 7 or 9

1	3	6	10	15	21	28	36	45
55	78	91	105	120	136	153	136	171
190	210	231	253	276	300	325	351	378

[6 marks]**Answer 11**

2, 4, 6, 16, 12, 64, 24, 36, 48, 128, 60, ...

[6 marks]