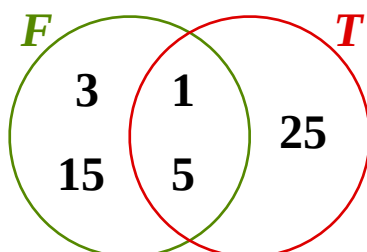


2.4 Answers

2.4.1 Solutions to 2.2 Example (Teaching Video)

$F = \{ \text{The factors of 15} \} = \{ 1, 3, 5, 15 \}$

$T = \{ \text{The factors of 25} \} = \{ 1, 5, 25 \}$



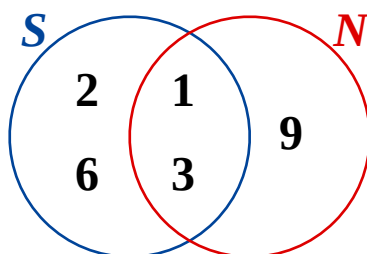
[7 marks]

2.4.2 Solutions to 2.3 Exercise

Answer 1

$S = \{ \text{The factors of 6} \} = \{ 1, 2, 3, 6 \}$

$N = \{ \text{The factors of 9} \} = \{ 1, 3, 9 \}$

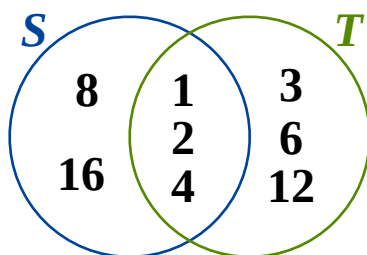


[7 marks]

Answer 2

$S = \{ \text{The factors of 16} \} = \{ 1, 2, 4, 8, 16 \}$

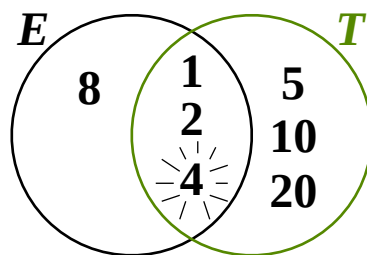
$T = \{ \text{The factors of 12} \} = \{ 1, 2, 3, 4, 6, 12 \}$



[7 marks]

Answer 3

- (i) $E = \{ \text{The factors of } 8 \} = \{ 1, 2, 4, 8 \}$
 $T = \{ \text{The factors of } 20 \} = \{ 1, 2, 4, 5, 10, 20 \}$



- (ii) $\text{HCF} \{ 8, 20 \} = 4$

[7 marks]

- (iii) Cloud around the “4”

[1 mark]

[1 mark]

Answer 4

prime factors (210) = { 2, 3, 5, 7 }

[4 marks]

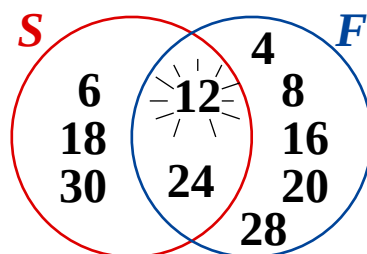
Answer 5

prime factors (12) = { 2, 3 }

[2 marks]

Answer 6

- (i) $S = \{ \text{The first five multiples of } 6 \} = \{ 6, 12, 18, 24, 30 \}$
 $F = \{ \text{The first seven multiples of } 4 \} = \{ 4, 8, 12, 16, 20, 24, 28 \}$



- (ii) $\text{LCM} \{ 6, 4 \} = 12$

[7 marks]

- (iii) Cloud around the “12”

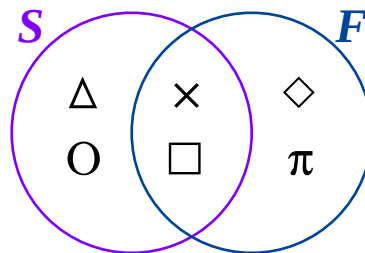
[1 mark]

[1 mark]

Answer 7

$$S = \{ \Delta, \times, O, \square \}$$

$$F = \{ \diamond, \square, \pi, \times \}$$

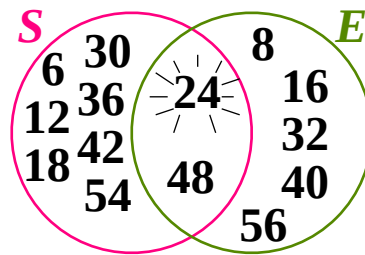


[4 marks]

Answer 8

(i) $S = \{ \text{The first nine multiples of 6} \} = \{ 6, 12, 18, 24, 30, 36, 42, 48, 54 \}$

$E = \{ \text{The first seven multiples of 8} \} = \{ 8, 16, 24, 32, 40, 48, 56 \}$



[7 marks]

(ii) $\text{LCM} \{ 6, 8 \} = 24$

[1 mark]

(iii) Cloud around the “24”

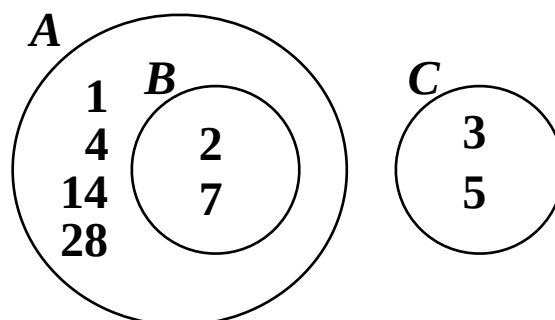
[1 mark]

Answer 9

$$A = \{ \text{factors of 28} \} = \{ 1, 2, 4, 7, 14, 28 \}$$

$$B = \{ \text{prime factors of 28} \} = \{ 2, 7 \}$$

$$C = \{ \text{prime factors of 15} \} = \{ 3, 5 \}$$



[8 marks]

B is a subset of A

[1 mark]

Answer 10

$A = \{ \text{The multiples of 35 less than 700} \}$

$B = \{ \text{The multiples of 42 less than 700} \}$

$C = \{ \text{The multiples of 63 less than 700} \}$

$A = \{ 35, 70, 105, 140, 175, 210, 245, 280, 315, 350, 385, 420, 455, 490, 525, 560, 595, 630, 665 \}$

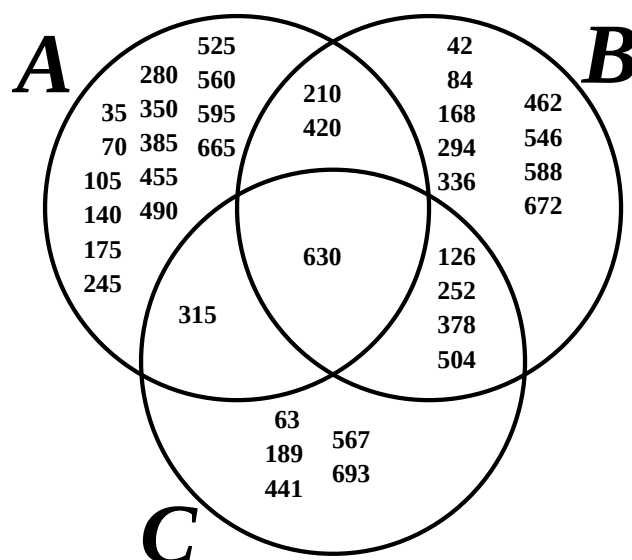
[3 marks]

$B = \{ 42, 84, 126, 168, 210, 252, 294, 336, 378, 420, 462, 504, 546, 588, 630, 672 \}$

[3 marks]

$C = \{ 63, 126, 189, 252, 315, 378, 441, 504, 567, 630, 693 \}$

[3 marks]



(i) $\text{LCM} \{ 35, 42, 63 \} = 630$

[1 mark]

(ii) $\text{LCM} \{ 35, 42 \} = 210$

[1 mark]

(iii) $\text{LCM} \{ 35, 63 \} = 315$

[1 mark]

(iv) $\text{LCM} \{ 42, 63 \} = 126$

[1 mark]