

- 1 (a) 15, 20, 30, 40, 45 (b) 12, 16, 20, 32, 36, 40  
 (c) 12, 18, 30, 36 (d) 16, 32, 40  
 (e) 18, 27, 36, 45

- 2 (a) 1 row of 12, 2 rows of 6, 4 rows of 3, 6 rows of 2, 12 rows of 1  
 (b) 1 and 12, 2 and 6, 3 and 4

- 3 (a) 1 and 18, 2 and 9, 3 and 6  
 (b) 1 and 20, 2 and 10, 4 and 5  
 (c) 1 and 30, 2 and 15, 3 and 10, 5 and 6  
 (d) 1 and 36, 2 and 18, 3 and 12, 4 and 9, 6 and 6

- 4 (a) Square numbers

(b) 9: 1, 3, 9

16: 1, 2, 4, 8, 16

25: 1, 5, 25

64: 1, 2, 4, 8, 16, 32, 64

81: 1, 3, 9, 27, 81

100: 1, 2, 4, 5, 10, 20, 25, 50, 100

- (c) Square numbers have an odd number of factors.

- 5 (a) • any two from 6, 8, 10, 14, 15, 21, 22, 26, 27  
 • any two from 12, 18, 20, 28  
 • any two from 2, 3, 5, 7, 11, 13, 17, 19, 23, 29  
 (b) prime numbers

- 6 (a) 1, 2, 3, 4, 6, 8, 12, 24  
 (b) 2, 3  
 (c)  $2 \times 2 \times 2 \times 3$

- 7 (a)  $12 = 2 \times 2 \times 3$   
 (b)  $18 = 2 \times 3 \times 3$   
 (c)  $30 = 2 \times 3 \times 5$   
 (d)  $36 = 2 \times 2 \times 3 \times 3$

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- 1 (a) T (b) F  
 (c) T (d) F  
 (e) T (f) F  
 (g) T

- 2 Anna: CA 675 BT

Chris: B 15 TD

Ewan: NE 329 KP

Bianca: G 64 DB

Danny: EH 84 CL

Finlay: AB 144 YP

- 3 Various answers are possible, including

- (a) odd number, square number, factors are 1, 3, 9, 27, 81  
 (b) odd number, triangular number, a common multiple of 5 and 9  
 (c) even number, one of its factor pairs is 4 and 54