

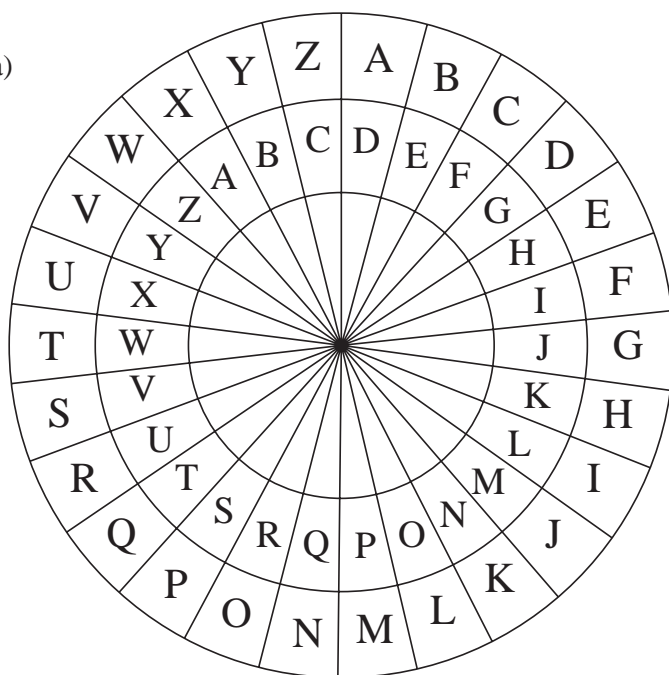
Practice Book *UNIT 16 Algebra: Linear Equations* Answers

16.1 Fundamental Algebraic Skills

1. (a) KCCR KC YR FMKC (b) OVER TO YOU

2. (a) SAZQ RUETUZZS (b) HIGH FIVE

3. (a)



(b) DANGER AHEAD

4. (a) 8 (b) 4 (c) 10
 (d) 9 (e) 8 (f) 6
 (g) 18 (h) 20 (i) 24
 (j) 18 (k) 18 (l) 5

5. (a) 4 (b) -1 (c) -5
 (d) 3 (e) -12 (f) 2
 (g) 6 (h) 0 (i) 13
 (j) -2 (k) 20 (l) 3

6. (a) 24 (b) 8 (c) 18
 (d) 8 (e) 40 (f) 35
 (g) 14 (h) 48 (i) 6
 (j) 91 (k) -4 (l) -6

7. 60

16.1

Answers

8. 6
9. (a) $5a$ (b) $13b$ (c) $2c$ (d) $16d$
 (e) $10e$ (f) f (g) 0 (h) $5p + 2h$ (cannot be simplified)
 (i) $a + 4b$ (j) $4x + 2y$ (k) $2t + 5s$ (l) $3m + n + 9p + 11q$
10. (a) $a + b + c$ (b) $2a + b$ (c) $a + 2b + c$
 (d) $6a$ (e) $5b$ (f) $4a + 4b$
11. $2x + 5$
12. $\text{£}2x + 50$
13. Either $50x + 100p$ or $\text{£}0.5x + 1$

16.2 Function Machines

1. (a) 10 (b) 30 (c) 3
 (d) 7 (e) 7 (f) 500
2. (a) 5 (b) 14 (c) 15
 (d) 8 (e) 3 (f) 27
3. (a) 6 (b) 4 (c) 20
 (d) 20 (e) 9 (f) 6
4. (a) 2 (b) 17 (c) 7 (d) 6
 (e) 48 (f) 69 (g) -2 (h) -5
5. (a) $25\frac{1}{2}$ or 25.5 (b) 7 (c) -3
6. 3
7. 28 years
8. $\text{£}13.50$
9. 52 passengers
10. 11 cm

Answers

16.3 Linear Equations

1. (a) $x = 6$ (b) $x = 6$ (c) $x = 8$
 (d) $x = 7$ (e) $x = 9$ (f) $x = 8$
 (g) $x = 24$ (h) $x = 45$ (i) $x = 9$
 (j) $x = -2$ (k) $x = -2$ (l) $x = 18$
 (m) $x = -14$ (n) $x = 0$ (o) $x = 2$
2. (a) $x = 5$ (b) $x = 6$ (c) $x = 5$
 (d) $x = 5$ (e) $x = 7$ (f) $x = 3$
 (g) $x = 7$ (h) $x = 9$ (i) $x = 4$
 (j) $x = -2$ (k) $x = -2$ (l) $x = -6$
3. (a) $x = 1\frac{1}{3}$ (or $\frac{4}{3}$) (b) $x = 1\frac{2}{5}$ (or $\frac{7}{5}$) (c) $x = 2\frac{1}{2}$ (or $\frac{5}{2}$)
 (d) $x = \frac{3}{8}$ (e) $x = 1\frac{1}{2}$ (or $\frac{3}{2}$) (f) $x = 4\frac{1}{4}$ (or $\frac{17}{4}$)
4. $x + 23 = 31$; $x = 8$ cm
5. (a) $2x + 36$ (b) $x = 6$ cm (c) $x = 4\frac{1}{2}$ cm or 4.5 cm
6. (a) $2x - 10 = 8$; Ben's age is 9
 (b) $2x - 10 = 10$; Ian's age is 10: $2x - 10 = 14$; Adam's age is 12
 $2x - 10 = 11$; Sergio's age is $10\frac{1}{2}$
7. $4x + 4 = 9.6$; $x = 1.4$ cm
8. (a) $x = 3$ (b) $x = 3$ (c) $x = 6$
 (d) $x = 3$ (e) $x = 9$ (f) $x = 6$
 (g) $x = 7$ (h) $x = 11$ (i) $x = -5$
 (j) $x = -3$ (k) $x = 10$ (l) $x = -1$
9. (a) $5x + 80 = 180$; $x = 20$ (b) The unknown angles are 60° and 40° .
10. $4x + 40 = 180$; $x = 35$; the unknown angles are 35° and 105° .
11. $3x + 10 = x + 11$; $x = \frac{1}{2}$ (or 0.5)