

Algebra Book Answers

2] Forming Expressions

1. $3a + 5b$

2. a) $x - 3$

b) $2x$

c) $x + 2x + (x - 3)$
 $= 4x - 3$

3. Perimeter = $2(L + w)$
 $= 2(y + y + 3)$
 $= 2(2y + 3)$
 $= 4y + 6 \text{ cm}$

4. $y + 35$

5. a) $x + 29$

b) $\frac{1}{2}x = \frac{x}{2}$

6. $(n \times 4)^2 + 6$
 $= (4n)^2 + 6 = 16n^2 + 6$

7. $21 - y$

8. a) $4y - 15$

b) Input $\times 4 - 15 = x$

$4 \times \text{Input} = x + 15$

Input = $\frac{x + 15}{4}$

9. a) $60y$ pences

b) $2y$

c) $2y \times 80 = 160y$

d) $15w + 8 \times 30$
 $= (15w + 240)$ pences

10.

Number of shaded = $n + 2$

Fraction = $\frac{n + 2}{n \times 2}$
no. of shaded squares
total no. of squares

11. Jo's = $n + 2$

Kate's = $2(n + 2)$
 $= 2n + 4$

12. a) $2n$ must be even

Reason : $\rightarrow 2 \times$ even no. = even

$$2 \times 4 = 8$$

$\rightarrow 2 \times$ odd no. = even

$$2 \times 3 = 6$$

b) $3n$ could be even or odd

Reason : $\rightarrow 3 \times$ even. = even

$$3 \times 4 = 12$$

$\rightarrow 3 \times$ odd. = odd

$$3 \times 5 = 15$$

13. a) $n + n + 2 = 2n + 2$

b) $n(n+2) = n^2 + 2n$

14. a) Barry is one year

younger than Tina

Carol's age is twice as Tina

b) Ann $\rightarrow n + 4$

Barry $\rightarrow n$

Carol $\rightarrow 2n + 1$

15. Cost of 5 rulers $\rightarrow 5K$

Cost of 5

rulers and $\rightarrow 5(K+m)$

5 pens

How much more

5 pens than $\rightarrow 5m - 5K$

5 rulers

The change from

5 £ in pence when $\rightarrow 500 - 5m$

you buy 5 pens

16. let $n = 13$

so, $2n + 1 = 2(13) + 1$

$$= 26 + 1 = 27$$

\downarrow
not prime

17. i) $p. = 3t + 2t + 7$

$$= 5t + 7$$

ii) $p. = 2k + k + 7 + 10$

$$= 3k + 17$$

iii) $p. = e + e + e + e + 3$

$$= 4e + 3$$

(4)

18. a) $5y+6$ and $6+5y$

b) No, we don't know the number of mints inside each packet.

19. a) Second pile = $(6n+8) - (2n+3)$
 $= 6n+8-2n-3$
 $= 4n+5$ \downarrow
-ve sign

b) $\frac{6n+8}{2} = 3n+4$

c) $n+3 = 23$
 $n = 23-3 = 20$

So, $5n+5 = 5(20)+5$
 $= 100+5 = 105$