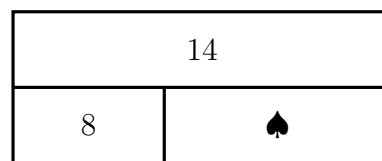1. Use the block diagram to complete
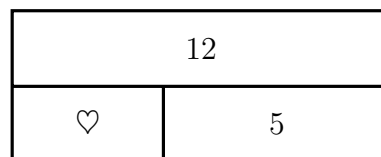
   (i) these 3 solve equations: $\ldots - \spadesuit = \ldots$

   $\ldots + \spadesuit = \ldots$

   $\spadesuit + \ldots = \ldots$

14	
8	$\spadesuit$

   (ii) the answer calculation: $\spadesuit = \ldots - \ldots = \ldots$

2. (a) Solve $12 - \heartsuit = 5$

   You may use this block diagram if it helps you.

12	
$\heartsuit$	5

   $\heartsuit = \ldots\ldots\ldots\ldots\ldots$

   (b) Solve $7 + \blacklozenge = 13$

   You may use this block diagram if it helps you.

13	
7	$\blacklozenge$

   $\blacklozenge = \ldots\ldots\ldots\ldots\ldots$
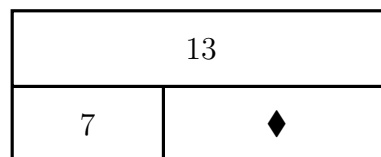
3. (a) Solve $9 + \heartsuit = 16$

   $\heartsuit = \ldots\ldots\ldots\ldots\ldots$

   (b) Solve $14 - \blacklozenge = 6$

   $\blacklozenge = \ldots\ldots\ldots\ldots\ldots$

4. Complete the **function** diagram to solve $\nabla + 8 = 13$

   You may use the block diagram if it helps you.

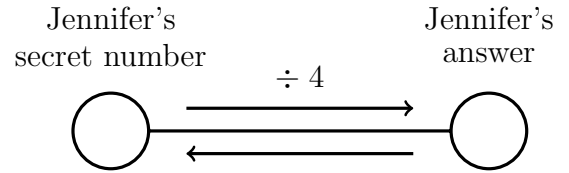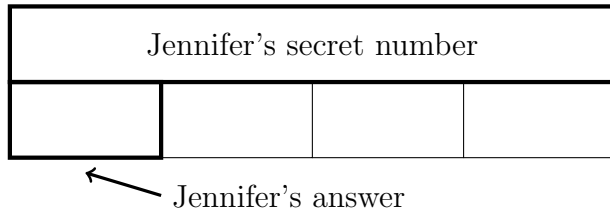 | function diagram | block diagram |
   |---|---|
   | ∇ $+ 8$ | |

   $\nabla = \ldots\ldots\ldots\ldots\ldots$
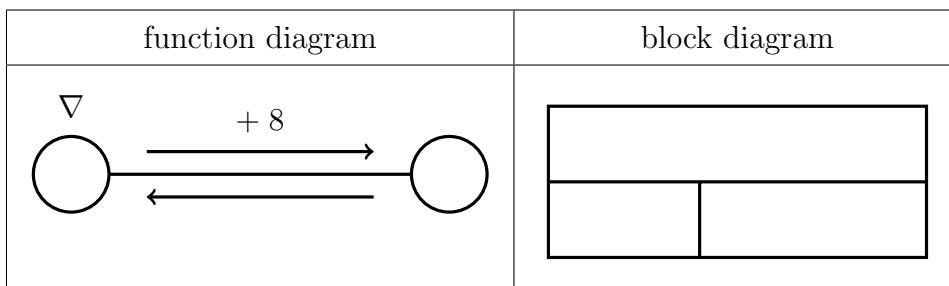
5. Jennifer is thinking of a secret number.

    She divides her secret number by 4 and gets the answer 3.

    Write down Jennifer's secret number.

   You may use the boxes diagram or the function diagram if they help you.

Jennifer's secret number

    Jennifer's answer

    Jennifer's secret number   Jennifer's answer

    $\div 4$

    5. . . . .

6. Dolly is thinking of a secret number.

    She multiplies her secret number by 7 and gets the answer 21

    Write down Dolly's secret number.

    You may use the boxes diagram or the function diagram if they help you.

    Dolly's secret number

    Dolly's answer

    Dolly's secret number   Dolly's answer

    $\times 7$
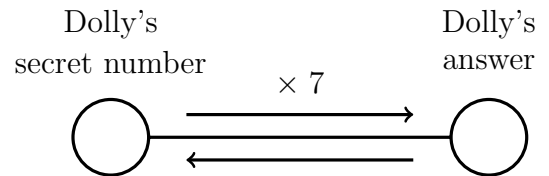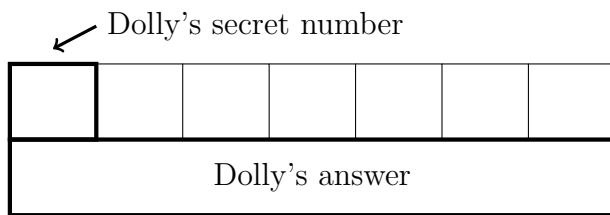
    6. . . . .

7. (a) Honey is thinking of a secret number.
        She divides her secret number by 2 and gets the answer 6

        Write down Honey's secret number.

        (a) . . . .

    (b) Igor is thinking of a secret number.
        He multiplies his secret number by 2 and gets the answer 6

        Write down Igor's secret number.
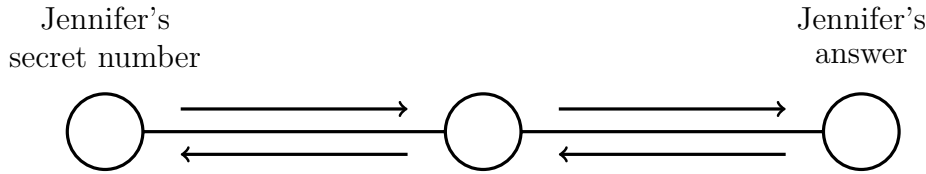
        (b) . . . .

8. Jennifer is thinking of a secret number.

   She multiplies her secret number by 2, subtracts 6 and gets the answer 14

   Write down Jennifer's secret number.

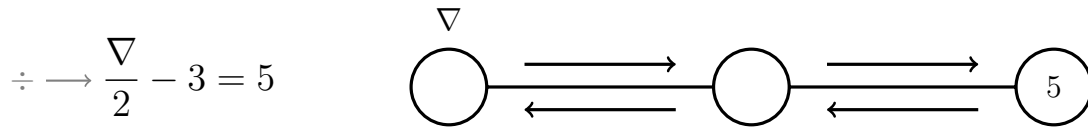   You may complete the function diagram if it helps you.

   Jennifer's secret number

   Jennifer's answer

   8. . . . .

9. Sean is thinking of a secret number.

   He multiplies his secret number by 3, adds 18 and gets the answer 30
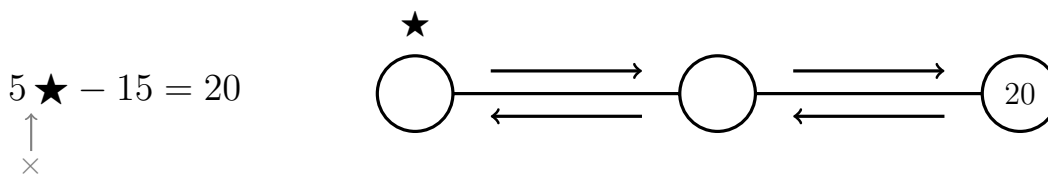
   Write down Sean's secret number.

   9. . . . .

10. (a) Complete the function diagram to solve

    $\div \longrightarrow \dfrac{\nabla}{2} - 3 = 5$

    ∇

    5

    $\nabla = $ . . . .

   (b) Complete the function diagram to solve

    $5\bigstar - 15 = 20$
    $\uparrow$
    $\times$

    $\bigstar$

    20

    $\bigstar = $ . . . .

11. (a) Complete the function diagram to solve

    $\dfrac{\blacksquare}{2} - 2 = 3$

    $\blacksquare = $ . . . .

   (b) Complete the function diagram to solve

    $4\bigstar - 4 = 8$

    $\bigstar = $ . . . .
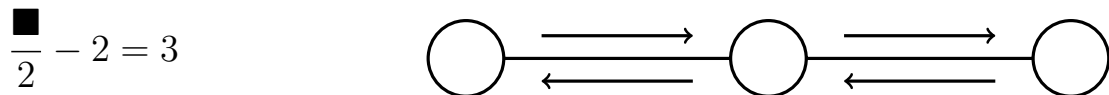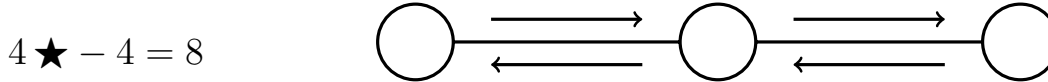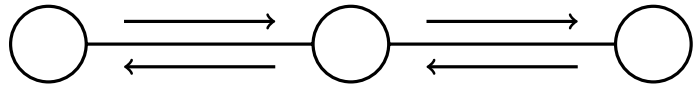
12. (a) Complete the function diagram to solve

1st sign because it's inside the bracket
↓

$2(\spadesuit - 3) = 14$

↑
×

$\spadesuit = \ldots\ldots\ldots\ldots$
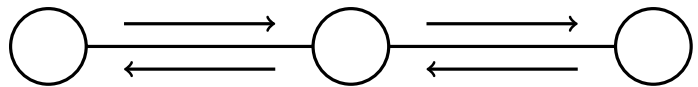
(b) Complete the function diagram to solve

1st sign — because the $\dfrac{\text{long} \div \text{sign}}{\square}$ acts $\dfrac{\text{(like a bracket)}}{\square}$
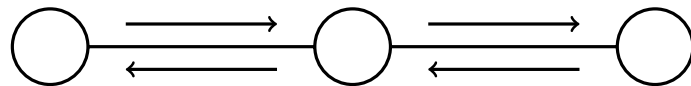
long ÷ sign ⟶ $\dfrac{\lozenge - 3}{5} = 3$

$\lozenge = \ldots\ldots\ldots\ldots$
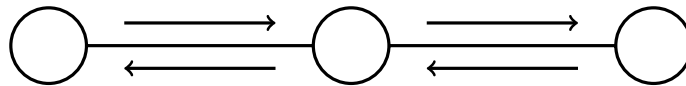
13. (a) Complete the function diagram to solve

$2(\heartsuit + 3) = 16$

$\heartsuit = \ldots\ldots\ldots\ldots$

(b) Complete the function diagram to solve

$\dfrac{\circledast + 12}{4} = 5$

$\circledast = \ldots\ldots\ldots\ldots$

14. (a) Solve

$$\frac{\clubsuit}{7} + 19 = 21$$

$\clubsuit = \ldots\ldots\ldots\ldots$

(b) Solve $6(\bigstar - 5) = 24$

$\bigstar = \ldots\ldots\ldots\ldots$