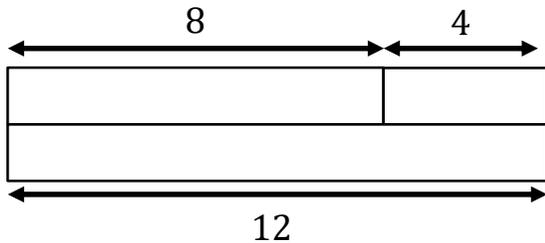


Answers

- 1 Complete the fact family for this bar model.



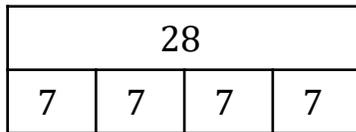
$$8 + 4 = 12$$

$$4 + 8 = 12$$

$$12 - 4 = 8$$

$$12 - 8 = 4$$

- 2 Complete the fact family for this bar model.



$$4 \times 7 = 28$$

$$7 \times 4 = 28$$

$$28 \div 7 = 4$$

$$28 \div 4 = 7$$

- 3 Solve these equations.

$$a + 37 = 83$$

$$a = \underline{46}$$



1 mark

$$24 = b - 7.6$$

$$b = \underline{31.6}$$



1 mark

$$\frac{c}{9} = 40$$

$$c = \underline{360}$$



1 mark

$$60 = 5d$$

$$d = \underline{12}$$



1 mark

- 4 Make up an equation which has solution $x = 7$

Any equation with solution $x = 7$.

e.g. $3x = 21$, $x - 7 = 0$, $\frac{x}{2} = 14$, $3 = 10 - x$ etc.



2 marks



2 marks



1 mark

- 5 Sam thinks of a number.
She subtracts 87 from his number and gets the answer 254
Show this information as an equation.

$$x - 87 = 254 \text{ or equivalent}$$

Solve the equation to find Sam's number.

$$x = 341$$

- 6 Sort the following into two sets of like terms.

| | | | | | |
|------|------|-----|-----|------|-------|
| $5x$ | -5 | x | 5 | $2x$ | $-5x$ |
|------|------|-----|-----|------|-------|

| | | |
|------|-------|-------|
| $5x$ | Set 1 | $-5x$ |
| $2x$ | | x |

| | | |
|------|-------|-----|
| -5 | Set 2 | 5 |
|------|-------|-----|

- 7 Tick the expressions that are equivalent to $5b$.

| |
|---------|
| $5 + b$ |
|---------|

| |
|-------------|
| $3b + 2b$ ✓ |
|-------------|

| |
|------------|
| $6b - b$ ✓ |
|------------|

| |
|----------------|
| $5 \times b$ ✓ |
|----------------|

| |
|-----------------------|
| $b + b + b + b + b$ ✓ |
|-----------------------|

| |
|------------|
| $b \div 5$ |
|------------|

Allow one mark for 3 correct

1 mark

1 mark

2 marks

2 marks

- 8 Simplify these expressions by collecting like terms.

$$4x + 3x - 2x$$

$$5c + 3d + 2d + 8d$$

$$8t + 2t^2 - 3t + 2t^2$$

$$\frac{5x}{5c + 13d}$$

$$\frac{4t^2 + 5t}{}$$

3 marks

- 9 An expression has four terms.
When simplified, the expression becomes $6x + 3$
What might the expression be?

Any four-term expression that simplifies to $6x + 3$
e.g. $4x + 2x + 5 - 2$, $10x - 2x - 2x + 3$

1 mark

- 10 Tim says that the following expressions are equivalent to each other.

| |
|----------|
| $2n + 5$ |
|----------|

| |
|----------|
| $5 + 2n$ |
|----------|

Is Tim correct? Explain your answer.

e.g. Yes, addition is commutative
or Yes, it does not matter which order the terms are in
etc.

1 mark

Total marks