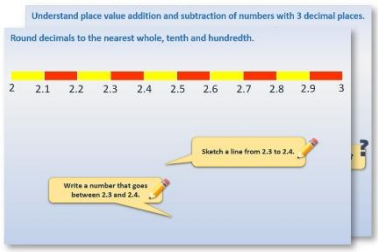
Week 14, Day 5
Equations

Each day covers one maths topic. It should take you about 1 hour or just a little more.

1. Start by reading through the **Learning Reminders**. They come from our *PowerPoint* slides.



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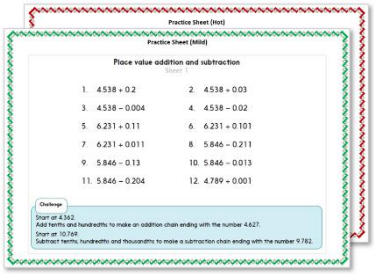
2. Tackle the questions on the **Practice Sheet**. There might be a choice of either Mild (easier) or Hot (harder)! Check the answers.



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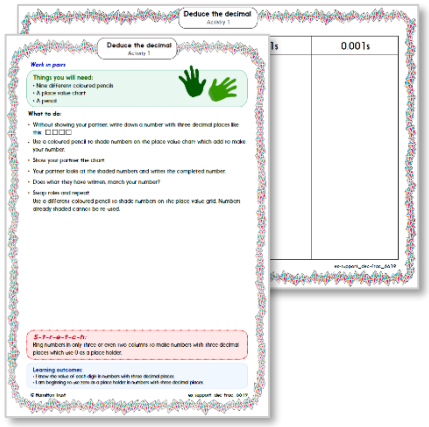
3. Finding it tricky? That's OK… have a go with a grown-up at **A Bit Stuck?**



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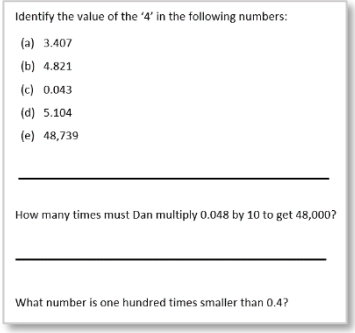
4. Have I mastered the topic? A few questions to **Check your understanding**. Fold the page to hide the answers!



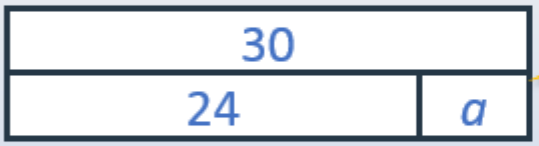
Learning Reminders

Solve equations.

$24 + a = 30$

Remember that this is called an **equation** and 'a' stands for a **mystery number.**

Today's tip is for algebra: Think of letters as empty boxes.

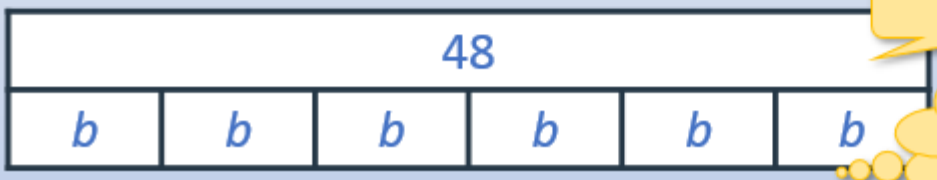


What is a?

What is a? How do you know?

$30 - a = 24$

$6b = 48$



$6b$ is short for 6 x b. What is b?

If 6 times something is 48, then the something must be...

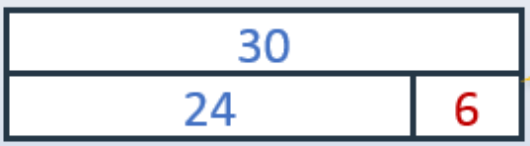
Spoiler alert! Answers

Solve equations.

$24 + a = 30$

Remember that this is called an **equation** and 'a' stands for a **mystery number.**

Today's tip is for algebra: Think of letters as empty boxes.

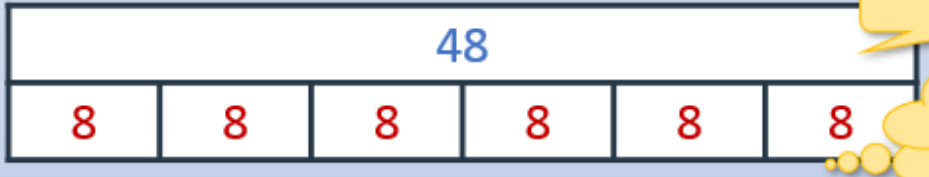


What is a?

What is a? How do you know?

$30 - a = 24$ $a = 6$

$6b = 48$ $b = 8$



$6b$ is short for 6 x b. What is b?

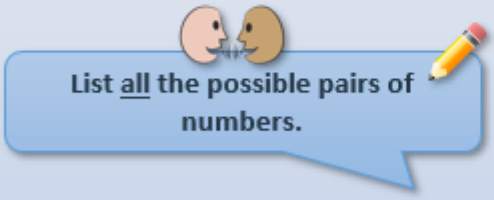
If 6 times something is 48, then the something must be...

Learning Reminders

Find pairs of numbers that satisfy an equation with two unknowns.

$x + y = 12$

x and ***y*** are whole positive numbers, and this time there is not one solution, but many.



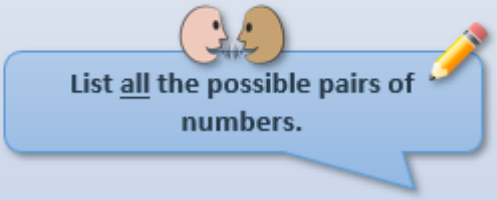
x	*y*
12	0
11	1
10	

Spoiler alert! Answers

Find pairs of numbers that satisfy an equation with two unknowns.

$x + y = 12$

x and ***y*** are whole positive numbers, and this time there is not one solution, but many.



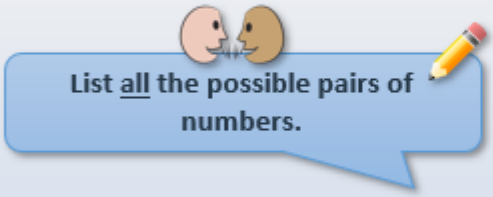
x	*y*
12	0
11	1
10	2
9	3
8	4
7	5
6	6
5	7
4	8
3	9
2	10
1	11
0	12

Learning Reminders

Find pairs of numbers that satisfy an equation with two unknowns.

$$m \times n = 24$$

m and *n* are whole positive numbers



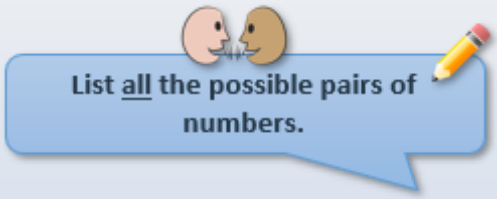
m	*n*
1	24
2	

Spoiler alert! Answers

Find pairs of numbers that satisfy an equation with two unknowns.

$$m \times n = 24$$

m and *n* are whole positive numbers

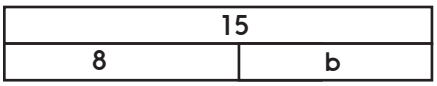


m	*n*
1	24
2	12
3	8
4	6
6	4
8	3
12	2
24	1

Practice Sheet for All

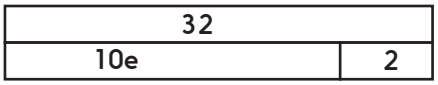
Solve these equations

1. $12 - a = 7$

2. 

3. $4c = 36$

4. $80 \div d = 40$

5. 

6. $3f = 15$

7. $10 + g = 16$

8. $2h + 6 = 12$

9. $20 - 4i = 12$

10. $45 \div j = 9$

11. $5k \div 2 = 10$

12. $10 + m = 56 \div 8$

Hot challenge

Solve these equations:

1. $r + s = 14$
   r and s are positive whole numbers. List all the possible pairs of numbers.
2. $n \times p = 16$
   n and p are positive whole numbers. List all the possible pairs of numbers.
3. $12 - t = u$
   t and u are positive whole numbers. List all the possible pairs of numbers.

Practice Sheet Answers

Solve these equations

1. a = 5
2. b = 7
3. c = 9
4. d = 2
5. e = 3
6. f = 5
7. g = 6
8. h = 3
9. i = 2
10. j = 5
11. k = 4
12. m = -3

Hot challenge

Solve these equations.

1. r + s = 14
   r and s are whole numbers. List all the possible pairs of numbers.
   0 and 14, 1 and 13, 2 and 12, 3 and 11, 4 and 10, 5 and 9, 6 and 8, 7 and 7, 8 and 6, 9 and 5, 10 and 4, 11 and 3, 12 and 2, 13 and 1, 14 and 0.
2. n x p = 16
   n and p are whole numbers. List all the possible pairs of numbers.
   1 and 16, 2 and 8, 4 and 4, 8 and 2, 16 and 1
3. 12 – t = u
   t and u are whole numbers. List all the possible pairs of numbers.
   0 and 12, 1 and 11, 2 and 10, 3 and 9, 4 and 8, 5 and 7, 6 and 6, 7 and 5, 8 and 4, 9 and 3, 10 and 2, 11 and 1, 12 and 0.

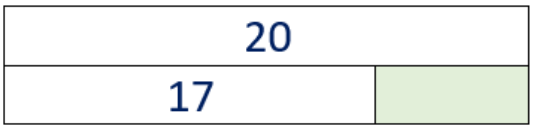
A Bit Stuck?
Bar model muddle

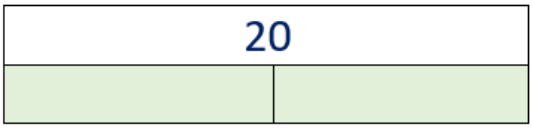
These bar models and their answers have been muddled up. The letters are missing from the bar models! And the bar models are **not** in the correct order.

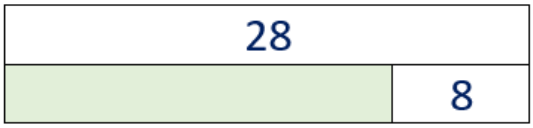
Your challenge is work out which letter belongs in each bar model. See how many you can sort out!

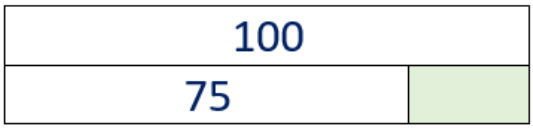
Where there are 2 or more blank spaces in the same bar model, the same letter belongs in each space.

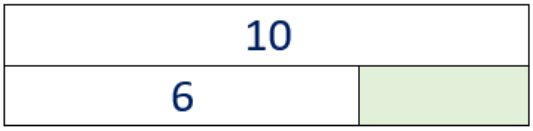
$a = 4$	$b = 3$	$c = 10$	$d = 5$	$e = 25$	$f = 20$	$g = 11$

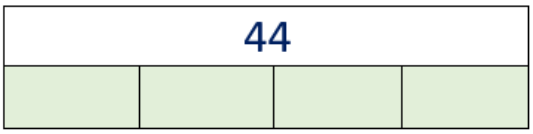


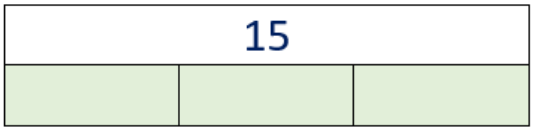








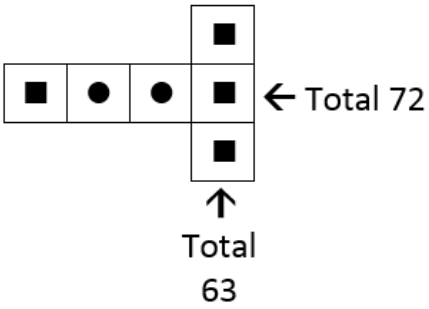




Check your understanding

Questions

Work out the value of each shape in this puzzle:



Work out what each letter stands for in these equations.

$2a + 4 = 14$

$40 - b = 27$

$c - 5 = 22$

$10 + 3d = 49$

---

e and f are positive whole numbers.

Find **all** pairs of solutions for this equation: $e \times f = 20$

Answers on the next page

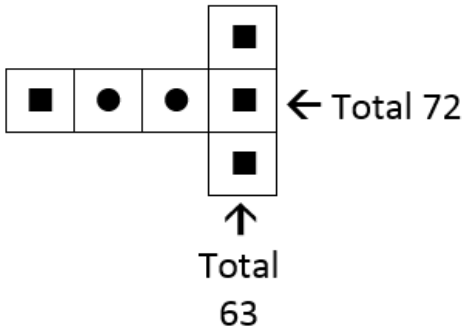
Check your understanding

Answers

Work out the value of each shape in this puzzle:

■ The square must be 21 (since the 3 squares on the vertical arm of the shape total 63).

● The circle must be 15 (subtract the value of 2 squares from 72 then divide by 2).



Work out what each letter stands for in these equations.

$2a + 4 = 14$ $a = 5$

$40 - b = 27$ $b = 13$

$c - 5 = 22$ $c = 27$

$10 + 3d = 49$ $d = 3$

---

e and f are positive whole numbers.

Find **all** pairs of solutions for this equation: $e \times f = 20$

e	f
1	20
2	10
4	5
5	4
10	2
20	1