Answers for Y6 Maths (wb 22.06.20)

Morning Mental Maths

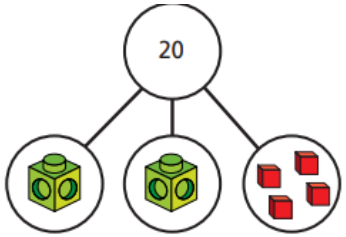
Monday	Tuesday	Wednesday	Thursday	Friday
1. 168	11. 144	21. 126	31. 50	41. 132
2. 7	12. 5	22. 8	32. 4	42. 5
3. 669	13. 48	23. 8700	33. 162	43. 30
4. 24%	14. 0.5	24. 39%	34. 0.82	44. 95%
5. 0.22	15. 0.56	25. 0.75	35. 0.08	45. 0.06
6. 29/100	16. 1/100	26. 17/100	36. 75/100 or 3/4	46. 517/1000
7. £4.90	17. £7.95	27. £35.66	37. £4.50	47. £6.06
8. -5°C	18. -10°C	28. -4°C	38. -3°C	48. -21°C
9. 44	19. 88	29. 221	39. 274	49. 286
10. 4	20. 6	30. 5	40. 7	50. 9

Monday

Answers provided at end of download

Tuesday

1 Here is a part-whole model.



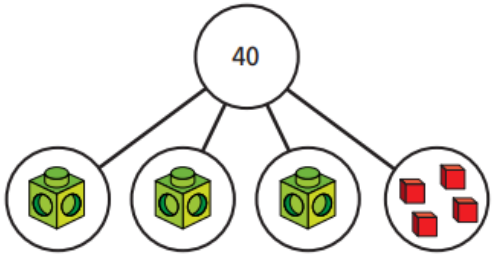
a) Write an equation for the part-whole model.

2a + 4 = 20

b) Solve the equation to work out the value of 

 = 8

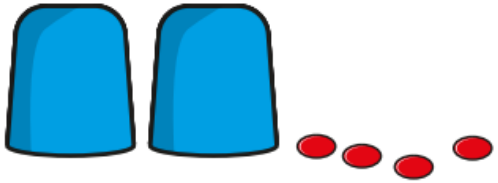
2 If each multilink cube represents x, form and solve an equation to find the value x.



$x =$ 12

3 There is the same number of counters under each cup.

There are 16 counters in total.



a) Use y to represent the number of counters under each cup.

Write an equation in terms of y.

$2y + 4 = 16$

b) Solve the equation to find the value of y.

$y =$ 6

c) How many counters are under each cup? 6

4 Write an algebraic equation to represent each bar model.

Find the values of a and b.

a)

21		
a	a	9

$a =$ 6

b)

46	
$3b$	10

$b =$ 12

5 Solve the equations.

a) $5x + 1 = 31$

$x =$ 6

b) $3x - 3 = 9$

$x =$ 4

c) $4p - 11 = 3$

$p =$ 3·5

d) $9 = 2y + 8$

$y =$ 0·5

e) $10g - 2 = 46$

$g =$ 4·8

f) $4 + 3y = 28$

$y =$ 8

6 Dani thinks of a number.

She doubles it and adds 3

She gets the answer 15

a) Write an equation to represent Dani's problem.

$2x + 3 = 15$

b) Solve the equation to find her number.

6

7 Alex is y years old.

Her friend Brett is 3 years older.

The total of their ages is 25

How old are Alex and Brett?

Alex is 11 Brett is 14

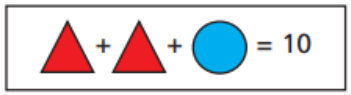
8

a) Work out the cost of one banana and one orange.

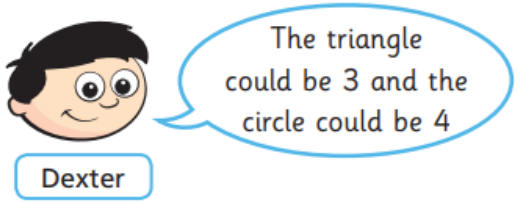
One banana costs 32p One orange costs 28p

Wednesday

1 Class 6 are trying to solve a number puzzle.



a)

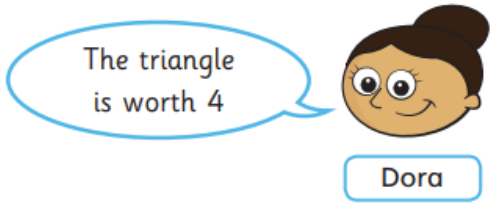


Do you agree with Dexter? yes

Explain why.

3 + 3 + 4 = 10

b)



What is the value of the circle in Dora's number puzzle?

● = 2

c) Find other pairs of values that the triangle and circle could equal.

Find three pairs.

▲ = 1 ● = 8

▲ = 5 ● = 0

▲ = 2 ● = 6

2 a and b are whole numbers.

$2a + b = 14$

Complete the table to show different possible values for a and b.

a	0	1	2	3	4	5	6	7
$2a$	0	2	4	6	8	10	12	14
b	14	12	10	8	6	4	2	0
$2a + b$	14	14	14	14	14	14	14	14

3 c and d are both integers less than 15 but greater than zero.

$3c - d = 2$

Complete the table to show different possible values for c and d.

c	1	2	3	4	5
$3c$	3	6	9	12	15
d	1	4	7	10	13
$3c - d$	2	2	2	2	2

b) Explain why there are no other possible values for c and d.

If c was 16 d would be greater than 15

4 x and y are both multiples of 5 less than 100

If $2x = y$, circle the possible values of x and y.

$x = 20, y = 20$

$x = 10, y = 20$ ✓

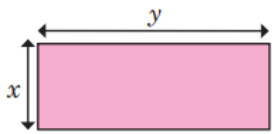
$x = 20, y = 10$

$x = 35, y = 70$ ✓

$y = 90, x = 45$ ✓

5 Here is a rectangle.

x and y are both integers.



The rectangle has a perimeter of 28 cm.

a) Write an equation to represent the perimeter of the rectangle.

$2x + 2y = 28$

b) List all the possible pairs of values for x and y.

$x = 1$ $y = 13$ $x = 5$ $y = 9$

$x = 2$ $y = 12$ $x = 6$ $y = 8$

$x = 3$ $y = 11$

$x = 4$ $y = 10$

7 Ron has four digit cards.

- Two of the cards have the same value.
- All of the cards are less than 10 but greater than zero.
- All of the cards are odd.
- The sum of the four cards is 24

Find two possible sets of cards.

Set 1 | 1 | 5 | 9 | 9 |

Set 2 | 1 | 7 | 7 | 9 |

8 $2ab = 48$

a) Find a pair of possible values for a and b.

e.g. $a =$ 6 $b =$ 4

Thursday

2 Complete the sentences.

a) There are [1,000] grams in 1 kilogram.

There are [1,000] kilograms in one tonne.

b) There are [1,000] millilitres in 1 litre.

c) There are [10] millimetres in 1 centimetre

There are [100] centimetres in 1 metre.

There are [1,000] metres in 1 kilometre.

3 Complete the bar models.

a)

1 km	1 km	1 km	1 km
1,000 m	1,000 m	1,000 m	1,000 m

There are [4,000] m in 4 km.

b)

1 kg	1 kg	1 kg	1 kg	1 kg	1 kg	$\frac{1}{2}$ kg
1,000 g	1,000 g	1,000 g	1,000 g	1,000 g	1,000 g	500 g

There are [6,500] g in $6\frac{1}{2}$ kg.

4 Complete the conversions.

a) 2 kg = [2,000] g

5 kg = [5,000] g

10 kg = [10,000] g

12kg = [12,000] g

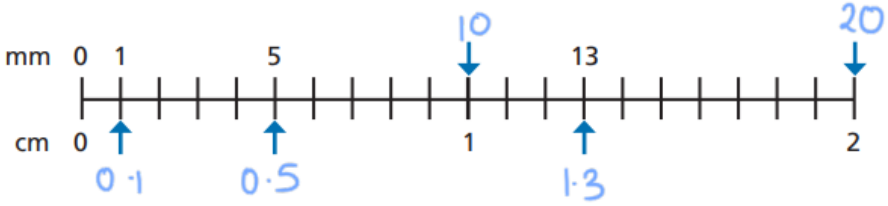
b) 1 l = [1,000] ml

5 l = [5,000] ml

11 l = [11,000] ml

6 What measurements are the arrows pointing to?

Label them on the number line.



7 Complete the conversions.

a) 10 mm = [1] cm

[11] mm = 1.1 cm

11 mm = [1·1] cm

[101] mm = 10.1 cm

[110] mm = 11 cm

b) 2.1 km = [2,100] m

2.01 km = [2,010] m

2.001 km = [2,001] m

2.011 km = [2,011] m

8 Write > , < or = to complete the statements.

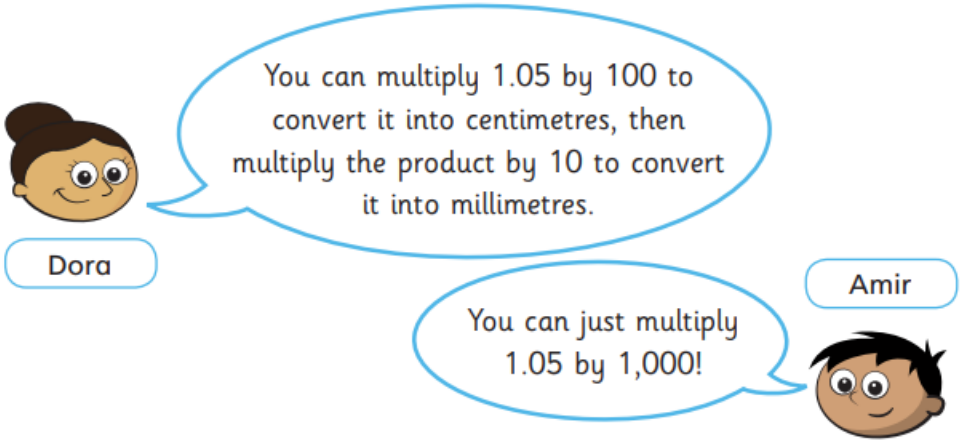
a)

100 m	<	1 km
10 m	>	10 cm
10.1 mm	<	101 cm

b)

5.1 l	=	5,100 ml
607 l	>	0.607 ml
0.05 l	>	5 ml

9 Dora and Amir are trying to convert 1.05 metres into millimetres.



Who do you agree with? Both

Explain your thinking.

10 What is the mass of one of the boxes?

Give your answer in grams.

250g

11 There are 1,000 kg in one tonne.

a) How many grams are there in one tonne?

1,000,000g

b) A car weighs 1.3 tonnes.

Write the weight of the car in grams.

1,300,000g

Friday

1 Tick the statements that are true.

Use the bar model to help you.

1 mile	1 mile	1 mile	1 mile	1 mile

1 km	1 km	1 km	1 km	1 km	1 km	1 km	1 km

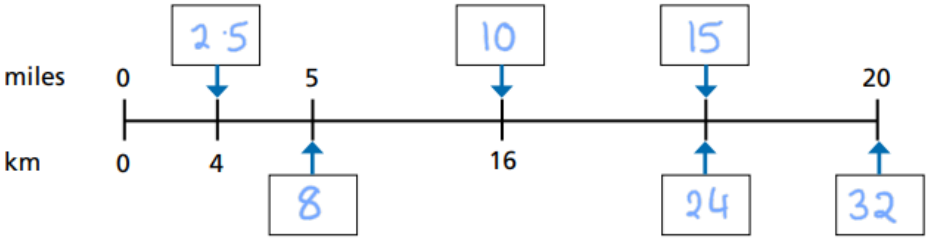
a) 5 miles is approximately equal to 8 kilometres. ☑

b) 1 mile is longer than 1 kilometre. ☑

c) 2 kilometres is longer than 1 mile. ☑

d) 2 kilometres is longer than 2 miles. ☐

2 Fill in the missing numbers on the number line.



3 Complete the conversions.

a) 5 miles ≈ 8 kilometres

10 miles ≈ 16 kilometres

15 miles ≈ 24 kilometres

b) 10 miles ≈ 16 kilometres

1 mile ≈ 1.6 kilometres

0·5 miles ≈ 0.8 kilometres

4 Complete the conversions.

a) 100 miles ≈ 160 km

b) 45 miles ≈ 72 km

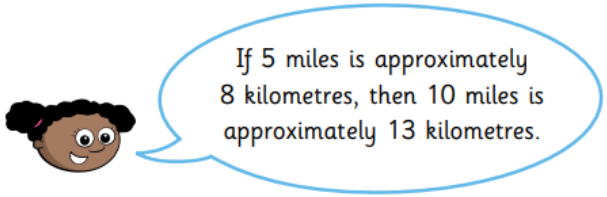
c) 400 ≈ 640 km

d) 95 miles ≈ 152 km

e) 7.5 miles ≈ 12 km

f) 2 miles ≈ 3·2 km

5



Here is Whitney's working out.

+ 5 (5 miles ≈ 8 km → 10 miles ≈ 13 km) + 5

Explain Whitney's mistake.

Whitney is not rounding by the same amount each time. There is a cumulative effect, as you have doubled the number you started with, meaning that the effect will be at least doubled.

6 A marathon is approximately 26.2 miles.

How far is this in kilometres?

41·92km

7 The maximum speed limit on residential roads in the UK is 30 miles per hour.

In France, the maximum speed limit on residential roads is 50 kilometres per hour.

a) Which country has the higher speed limit for these roads?

France

b) What is the difference between the speed limits in miles per hour?

1·25mph

8 Esther cycles 70 miles over 4 days.

On day 1 she cycles 14 miles.

On day 2 she cycles 32 km.

On day 4 she cycles twice as far as she does on day 3

How far does she cycle on day 4?

Give units with your answer.

16 miles

9 Use a map of your local area. Various answers.

Find something that is approximately:

a) 1 mile away from your school

b) 1 km away from your school

c) 5 miles away from your school

d) 5 km away from your school