RIGOUR

by cdmasterworks Ltd

Numeracy for Learning, Life and Work

December National Maths Calendar

#abitofmathseveryday

1 Nathan opens a window on his advent calendar at random. The calendar is numbered 1-24. What is the probability that he will have opened a window that is a multiple of 5?

2 Write 0·8 as a fraction and a percentage.

3 Calculate

$-8 + (-4)$

4 Lucky Todd got 32 presents!

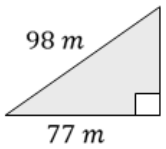
$\frac{3}{8}$'s of them were toys.

How many of his presents were toys?

5 Calculate the median of the following data set...

8, -2, 6, -5, 0, -9

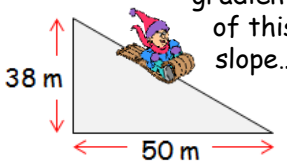
6 Calculate the length of the missing side...



7 Multiply out the following bracket and simplify...

$10 - 4(x + 2)$

8 Calculate the gradient of this slope...

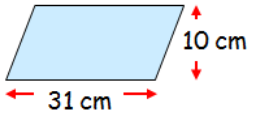


9 The weather forecast predicts a 6 in 40 chance of snow in December. It also predicts an 8 in 50 chance of snow in January. Is it more likely to snow in December or January? Give a reason your answer!

10 Santa flies 315 kilometres in 2 hrs 6 mins.

What is his average speed?

11 Calculate the area of this parallelogram...



12 Simplify the following expression...

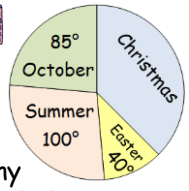
$5x - 3y + 2x + 9y$

13 Grandpa Smith shared some pocket money between his three grandsons Max : Andrew : Freddie in the ratio 9 : 4 : 7. Andrew received £32. How much did Max and Freddie both receive?

14 Solve the following equation...

$9x + 5 = x - 11$

15 600 children asked. How many preferred Christmas?



16 If m = -1 and c = 2 calculate :-

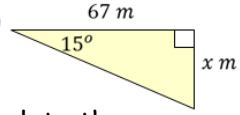
$2m^2 - 3c$

17 Factorise the following expression...

$8x - 12$

18 At a football game there were 40 000 supporters. 35 000 were supporting the home team. What percentage of the crowd were supporting the away team?

19 Calculate the length of the missing side...



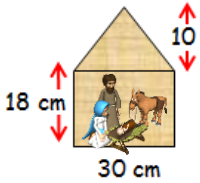
20 Change the subject of the formula to r...

$M = 3r - y$

21 Write a rule and complete the table...

Trees (T)	1	2	3	17	?
Baubles (B)	11	19	27	?	195

22 Calculate the area of this card-board crib...



23 Calculate the amount of paper used to wrap this present in cm².

24 Santa was left 350 millilitres of milk.

How many litres is this?

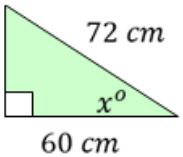
25 This formula is for cooking a turkey;

Cooking time in mins = weight in kg × 45 + 20

Calculate the cooking time, in hrs and mins, for a 3 kg turkey.

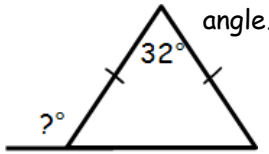
26 This £80 pair of trainers have 15% off in the Boxing Day sale. How much do they now cost?

27 Calculate the size of the missing angle...



28 Cameron got £60 in Christmas money He spent £29·98 on a computer game and £12·70 on a new control pad. How much money does he have left over?

29 Calculate the missing angle...



30 The official currency of Lapland is euros. Santa exchanged £300 and received €342. What is the current exchange rate?

31 Calculate the perimeter of this shape...