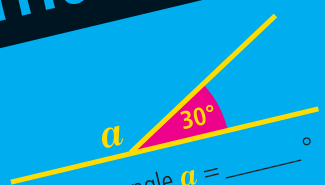
New Wave Mental Maths

6th Class

REVISED EDITION

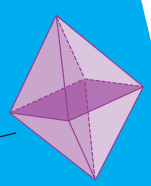
SAMPLE - NOT FOR SALE

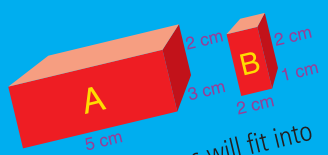
THURSDAY



The obtuse angle a = _____ °

Name this shape. _____

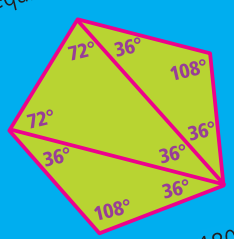




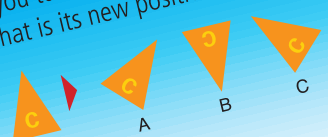
How many B boxes will fit into Box A? _____

This regular pentagon is made up of 3

☐ scalene triangles.
☐ isosceles triangles.
☐ equilateral triangles.



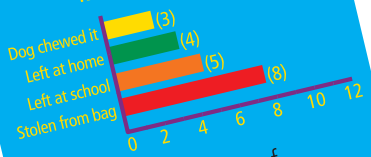
If you turn the triangle 180°, what is its new position? _____



PROBLEM-SOLVING

MONDAY

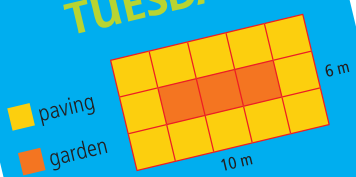
6th Class Homework Excuses for 1st Week of October



What was the fraction of homework stolen? _____

What fraction either left their homework at school or at home? _____

TUESDAY



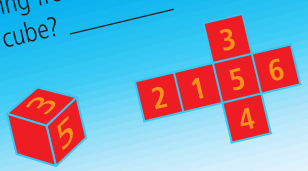
☐ = _____ m^2

WEDNESDAY

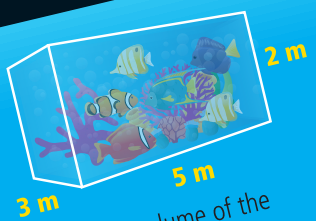
How many cupfuls?

THURSDAY

Look at the net. Which number is missing from the blank face of the cube? _____



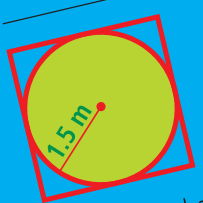
FRIDAY REVIEW



What is the volume of the fish tank? _____ m^3

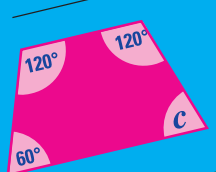
There are 3 fish per cubic metre. How many fish are there? _____

The length of one side of this square is _____ m.



The time $\frac{2}{3}$ of an hour before was:

Angle c = _____ °



A fast train took 4 hours to complete its 800 km journey. Its average speed was _____ km/h.

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Eddy Krajcar

FOREWORD

New Wave Mental Maths is a series of seven pupil workbooks, written to provide a comprehensive and structured daily mental maths programme for classes from Senior Infants to 6th Class. All strands and strand units of the mathematics curriculum are covered. The series has been updated and revised. Contemporary colour and appealing artwork have been added. Question types have been revised, reworded or rewritten. New to this edition is the inclusion of a separate problem-solving column in each week's unit of work, to enable teachers to focus on specific problem-solving skills and strategies.

New Wave Mental Maths is designed to:

- provide complete coverage of all mental maths-related strands and strand units of the mathematics curriculum;
- encourage and develop mental calculation concepts and skills;
- constantly revise the different strands and strand units;
- develop and reinforce problem-solving strategies;
- develop and maintain speed of recall; and
- introduce, practise and consolidate a range of mathematical vocabulary and language.

Assessment activities are provided for pupils to assess, monitor and record their own performance on a weekly basis. A separate ***Teachers Manual*** is available to accompany the ***New Wave Mental Maths*** series. This manual contains guidelines to help develop mental strategies; suggestions for classroom use; assessment material; list of concepts developed and answers for all the pupil workbooks.

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SAMPLE - NOT FOR SALE

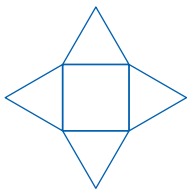
WEDNESDAY

1. Round 4.27 to one decimal place. _____

2. This is a net of a

_____

_____.



3. $\frac{1}{4}$ km = _____ m

4. Write one million and ten as a numeral.

_____

5. 6 – 0.3 = _____

6. Write the composite numbers from 1 to 10.

_____, _____, _____, _____ and _____

7. What is the 24-hour time for 9.00 p.m.?

_____ hours

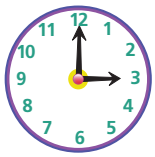
8. 70 = double a, so a = _____

9. $2^3 = 2 \times 2 \times 2$ = _____

10. (18 ÷ 3) + 8 = _____

11. Simplify $\frac{6}{9}$. _____

12. Which is the size of the inside angle between the hands?



☐ 45° ☐ 90° ☐ 180°

13. 20% of €100 = € _____

14. Write the numeral two point zero, zero four.

_____

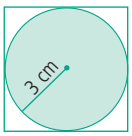
15. 55,000 + 45,000 = _____

16. 4.1, 8.2, 16.4, _____

17. $9 \times \frac{2}{3}$ = _____

18. If a jar contains 4 chocolate chip biscuits, 6 ginger biscuits and 10 coconut biscuits, what is the probability of picking a chocolate chip biscuit?

_____ in _____

19. 

What is the perimeter of the square?

_____ cm

20. 6^2 = _____

THURSDAY

1. Round 3.39 to one decimal place. _____

2. $\frac{3}{4} + \frac{3}{4}$ = _____

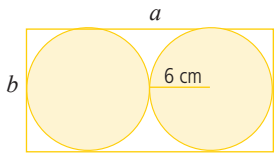
3. The circumference of a circle is approximately
☐ 2 ☐ 3 ☐ 4 times longer than its diameter.

4. 2.5 ÷ 5 = 0. _____

5. The length of

a is _____ cm.

b is _____ cm.

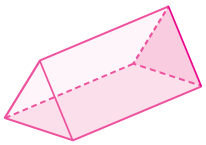


6. A triangular prism has

_____ faces.

_____ edges.

_____ vertices.



7. (15 – 5) × 5 = _____

8. $3^3 = 3 \times 3 \times 3$ = _____

9. Round $3\frac{3}{7}$ (nearest whole number). _____

10. The time is 7.12 a.m. in Ireland and 8.12 a.m. in France. What is the time difference?

_____

11. Circle –6 on the number line.

12. 60, 600, 6,000, _____

13. 19 × 3 = (20 × 3) – _____

14. Tick the smallest. ☐ $\frac{4}{6}$ ☐ $\frac{8}{9}$ ☐ $\frac{1}{3}$

15. $\frac{1}{4}$ = _____ %

16. The factors of 6 are

_____, _____, _____ and _____.

17. What is the average of 15, 30 and 15?

_____

18. Write one million one hundred as a numeral.

_____

19. 38 ÷ 5 = _____ r _____

20. What is the 24-hour time for 4.30 a.m.?

_____ hours

SAMPLE - NOT FOR SALE

WEDNESDAY

1. $5 \times 10 \times 2{,}000 =$ _____

2. Write the decimal zero point zero five.

   _____

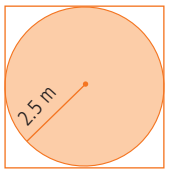
3. Simplify $\frac{20}{24}$. _____

4. $10^5 =$ _____

5. Circle the composite number.

   29 **30** **31**

6. What is the perimeter of the square?



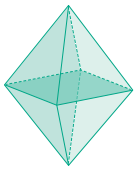
   _____ m

7. $2{,}000 - 350 =$ _____

8. Draw after a 270° rotation anticlockwise.

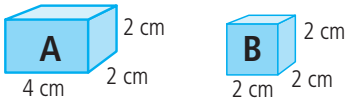
9. $\frac{1}{3} =$ _____ %

10. $\frac{1}{3}$ of _____ = 4



11. An octahedron has _____ faces.

12. How many of Box B will fit evenly into Box A? _____



13. $5\frac{2}{10} - \frac{7}{10} =$ _____

14. 17, 34, 68, _____, 272

15. $82.95 \div 10 =$ _____

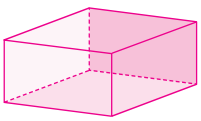
16. A bus timetable shows 8-minute intervals between each stop. If a bus leaves at 9.02 a.m. and has 4 stops, what time will it reach its destination?

    _____

17. Add brackets to this number sentence.

    $9 \times 3 - 18 \div 2 = 18$

18. A cuboid has



    _____ faces. _____ edges.

    _____ vertices.

19. What are the multiples of 8? [ ] 96 [ ]
    Before After

20. Write one million, one thousand, one hundred and eleven as a numeral.

    _____

THURSDAY

1. $20 \times 5 \times 2{,}000 =$ _____

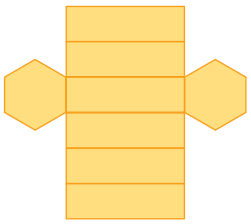
2. $4 \times b = 36$, so $b =$ _____

3.

   What is the size of this angle? _____ °

4. 25% of 800 = _____

5. This is a net of a



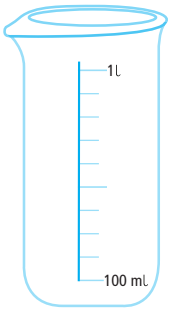
   _____

   _____.

6. Simplify $\frac{18}{24}$. _____

7. $12 \times 9 =$ _____

8. Colour to show approximately $\frac{3}{4}$ litre.



9. $9\overline{)342} =$ _____

10. On a plan, how many centimetres should a wall be if its actual length is 12 m and the scale is 1:100?

    _____ cm

11. Tick the smallest. ☐ $\frac{9}{10}$ ☐ $\frac{2}{5}$ ☐ $\frac{6}{10}$

12. Write five tenths as a decimal. _____

13. $4\frac{8}{10} + \frac{7}{10} =$ _____

14. How many halves in 4? _____

15. Double $\frac{1}{4}$. _____

16. $2 - 0.09 =$ _____

17. $81 \times \frac{1}{9} =$ _____

18. $\frac{1}{4}$ of _____ = 20

19. $71.69 \div 10 =$ _____

20. A regular octagon has a perimeter of 40 cm. What is the length of one side?

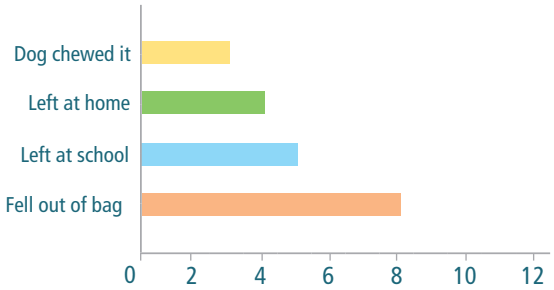
    _____ cm

SAMPLE - NOT FOR SALE

PROBLEM-SOLVING

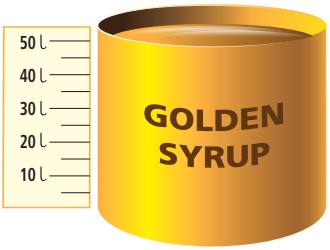
Monday

Mr Teacher's 6th Class
Homework Excuses for 1st Week of October



1. What was the fraction of homework that fell out of bags? _____
2. What fraction either left their homework at school or at home? _____

Tuesday



1. A cake shop uses a large container of golden syrup each week. From Wednesdays to Sundays, the chef uses $\frac{3}{5}$ of a container. Circle the litre level that will be left over for Mondays.
2. On Tuesday morning, there was 5 litres left.

   How much was used on Monday? _____ litres

Wednesday

1. 45 hundreds, 150 tens and 150 units is equal to _____.
2. What 4 coins will make €2.90?

   _____ _____ _____ _____

Thursday

1. Colour to show the parallel streets.
2. A tap leaks 250 mℓ every ten minutes. How long will it take to leak 1 litre?

   _____ minutes

FRIDAY REVIEW

1. The factors of 21 are

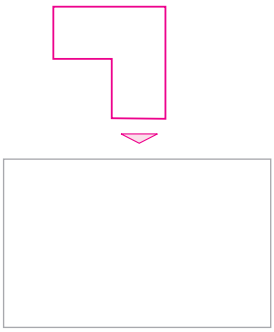
   _____, _____, _____

   and _____.
2. 25% of 900 =

   _____
3. Write the numeral one million, one thousand and one.

   _____
4. 73.55 ÷ 10 =

   _____
5. $6 \times b = 42$, so $b =$ _____
6. Draw as a 90° rotation anticlockwise.



7. What is the volume of a box 40 cm by 20 cm by 30 cm?

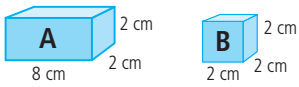
   _____ cm^3
8. $35 \times \frac{3}{5} =$ _____
9. What is the LCD of $\frac{3}{10}$ and $\frac{3}{4}$?

   _____
10. A fence 15 m long is drawn at a scale of 1:100. The length of the fence on paper will be

    _____ cm.
11. Halve $\frac{1}{2}$. _____
12. Octahedron = ____ faces
13. 30 × 5 × 2,000 =

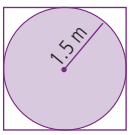
    _____
14. How many halves in 6?

    _____
15. Add brackets to this number sentence.

    8 × 3 − 45 ÷ 9 = 19
16. 16, 32, 64, _____
17. 

    How many of Box B will fit evenly into Box A?

    _____
18. $5\frac{3}{10} - \frac{7}{10} =$ _____
19. What is the perimeter of this square?



    _____ m
20. Multiples of 7.

    [ ] 49 [ ]
    Before After
21. $\frac{1}{2}$ of _____ = 8
22. 9.1, 9.05, 9, _____, 8.9, 8.85
23. A bus timetable shows 8-minute intervals between each stop. If a bus leaves at 6.04 a.m. and has 3 stops, what time will it reach its final destination?

    _____ a.m.
24. $10^5 =$ _____
25. Circle –3 on the number line.

SAMPLE - NOT FOR SALE

MONDAY

1. What is the average? _____

   85 75 65

2. Write these decimals from smallest to largest.

   0.5 0.75 0.05

   _____, _____, _____

3. House plans are drawn using 1:100 as the scale. Measure this line and indicate the actual length in metres.

   _____ m

4. $\frac{3}{4}$ kg = _____ g

5. 4.17 > 4.1 ☐ True ☐ False

6. 5 – 0.07 = _____

7. What is the area of a floor 8 m by 6 m? _____ m^2

8. Which is the inside angle between the hands?

   ☐ 45° ☐ 90° ☐ 9°

9. Halve $\frac{1}{4}$. _____

10. Circle the prime number.

    27 28 29

11. Write the numeral one million, five hundred and fifty thousand.

    _____

12. A: 4 cm × 2 cm × 3 cm; B: 2 cm × 2 cm × 1 cm

    How many of Box B will fit evenly into Box A? _____

13. The factors of 22 are _____, _____, _____ and _____.

14. 25,000 + 75,000 = _____

15. 9 + 7 × 2 = _____

16. 2^5 = ___ × ___ × ___ × ___ × ___ = _____

17. $\frac{2}{3}$ = _____%

18. Write half past one in the morning as 24-hour time. _____ hours

19. 0.5, 5, _____, 500, 5,000

20. What is the height of the cylinder?

    _____ mm

    450 mm

TUESDAY

1. What is the average? _____

   350 550 750

2. How many thirds in 2? ____

3. 75% of 100 = _____

4. The sum of the angles in a square is _____ °.

5. 6^2 = _____

6. Double 0.7. _____

7. Name this shape.

   _____

8. What is the simplified ratio of boys to girls if a class has 10 boys and 20 girls? _____

9. Round 7.07 to one decimal place. _____

10. $b \times 12 = 108$, so b = _____

11. Write these fractions from largest to smallest.

    $\frac{7}{8}$ $\frac{1}{4}$ $\frac{3}{6}$

    _____, _____, _____

12. $8\frac{4}{8} + 2\frac{7}{8}$ = _____

13. What is the volume of this block?

    A: 5 cm × 6 cm × 3 cm

    _____ cm^3

14. The time is 1 p.m. in Ireland and 8 p.m. on the same day in Thailand. What is the time difference?

    _____

15. Circle –5 on the number line.

    Acca-matic Precision Instruments — Made in Ireland

    –8 –7 –6 –5 –4 –3 –2 –1 0 +1 +2 +3 +4 +5 +6 +7 +8

16. $\frac{1}{4}$ of _____ = 10

17. Order from smallest to largest.

    0.7 0.75 7.05

    _____, _____, _____

18. 80 × 50 = _____

19. 47.5 ÷ 10 = _____

20. A hat contains 4 red and 6 blue marbles. What is the chance of randomly choosing a red marble? Draw a cross on the chance line.

    0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

SAMPLE - NOT FOR SALE

Week 6

WEDNESDAY

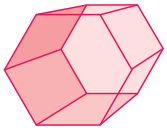
1. $\sqrt{9}$ = _____
2. A floor is 7 m by 4 m. Area = _____ m^2
3. Write these decimals from largest to smallest.

   0.22 0.2 0.02

   _____, _____, _____
4. 75% of 200 = _____
5. What is the simplified ratio of girls to boys if a class has 20 girls and 10 boys?

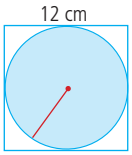
   _____
6. Round 29.35 to the nearest whole number. _____
7. Simplify $\frac{21}{24}$. _____
8. Draw as a 90° rotation clockwise.

9. 3^3 = _____
10. $\frac{1}{2}$ kg = _____ g
11. Write six hundredths as a decimal. _____
12. Name this 3-D shape.



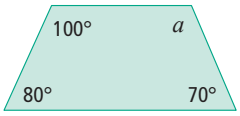
   _____

   _____
13. What is the radius of the circle?



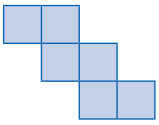
   _____ cm
14. Circle the composite number.

   26 29 31
15. $8\frac{1}{3} - \frac{2}{3}$ = _____



16. Angle a = _____°

   as 100° + 80° + 70° + _____° must equal 360°.
17. This is a net of a

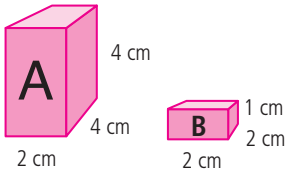


   _____.
18. $\frac{1}{5}$ = _____ %
19. (16 – 7) – (12 ÷ 4) = _____
20. Ivy had 5 cards (1–5) and shuffled the pack. What is the chance of picking a 4 randomly?

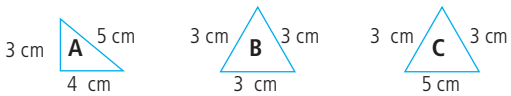
   ☐ 5% ☐ 4% ☐ 20% ☐ 25%

THURSDAY

1. $\sqrt{25}$ = _____
2. How many of Box B will fit evenly into Box A?



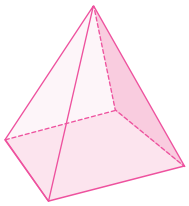
   _____
3. How many thirds in 3? _____
4. The angles in a rectangle = _____°
5. 300, 30, 3, _____
6. 300 ÷ c = 60, so c = _____
7. Which triangle has no line of symmetry? _____



8. 7 ⟌357 = _____
9. Simplify $\frac{30}{36}$. _____
10. Write these fractions from largest to smallest.

   $\frac{2}{5}$ $\frac{1}{10}$ $\frac{1}{2}$

   _____, _____, _____
11. A square-based pyramid has



   _____ faces.

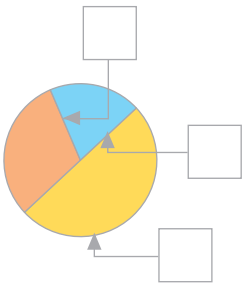
   _____ edges.

   _____ vertices.
12. Write nine hundredths as a decimal. _____
13. 8.00 > 8.08 ☐ True ☐ False
14. How many degrees?

   _____°
15. 477 m = $\frac{477}{1,000}$ km = _____ km
16. 2 – 0.01 = _____
17. 75% of 500 = _____

On the circle diagram, label

18. the radius 'A'.
19. the diameter 'B'.
20. the circumference 'C'.



SAMPLE - NOT FOR SALE

PROBLEM-SOLVING

Monday

1. A sea container measures 6 m × 10 m × 3 m. TVs are packaged in 2 m × 3 m × 1 m boxes. How many TVs will fit in the sea container if there are 30 TVs in each box?

_____

2.

The angle of rotation from 1 to 6 is 150°. Each consecutive clock number is equal to _____ °.

Tuesday

1.
```
    A A
+     A
-------
  1 0 8
```
A = _____

2. What is the value of 11 ten thousands and 9 ten thousands?

_____

Wednesday

1. 1.65, 1.375, 1.11, 0.825, _____, 0.275
2. 0.75, 0.625, _____, 0.375, 0.25

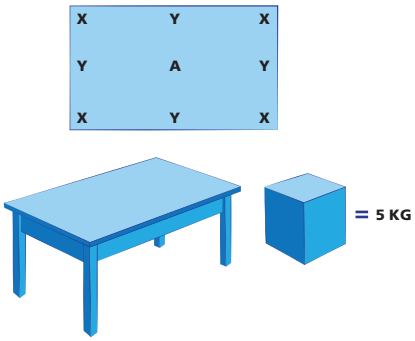
Thursday

1. Our difference is 5, our product is 24.

   The numbers are _____ and _____.

2. An engineer tested a table that could hold

   6 cubes, at each corner (X).
   3 cubes in between each corner (Y).
   1 cube in the middle (A).



What is the total weight limit of this table?

_____ kg

FRIDAY REVIEW

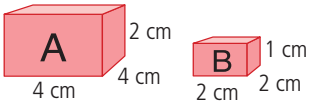
1. $\sqrt{16}$ = _____
2. Order from smallest to largest.

   0.5 **0.75** **0.05**

   _____, _____, _____

3. What is the simplified ratio of boys to girls if there are 12 boys and 24 girls?

   _____

4. 

   How many of Box B will fit evenly into Box A?

   _____

5. $\frac{1}{4}$ kg = _____ g
6. $c \times 12 = 132$,

   so c = _____

7. What is the area of a floor 7 m by 6 m?

   _____ m^2

8. 9 – 0.01 = _____
9. 75,000 + 25,000 =

   _____

10. How many thirds in 4?

    _____

11. $7\overline{)427}$ = _____
12. Write twelve forty in the morning as 24-hour time.

    _____ hours

13. 7.07 > 7.70

    ☐ True ☐ False

14. Order these fractions from largest to smallest.

    $\frac{1}{2}$ $\frac{8}{10}$ $\frac{2}{5}$

    _____, _____, _____

15. Double 0.8. _____
16. An angle in a rectangle = _____ °
17. 387 m = $\frac{387}{1{,}000}$ km

    = _____ km

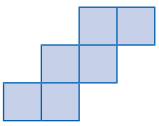
18. 38.5 ÷ 10 =

    _____

19. House plans are drawn using 1:100 as the scale. Measure this line and indicate the actual length in metres.

    _____ m

20. $\frac{2}{5}$ = _____ %
21. Cards numbered 1 to 10 were shuffled. Draw a cross to show the chance of randomly picking either a 7, 8, 9 or 10.

22. $7\frac{6}{8} + 2\frac{4}{8}$ = _____
23. 

    This is a net of a

    _____.

24. 75% of 500 =

    _____

25. What is the average?

    _____

    250 **100** **550**

Week 6

SAMPLE - NOT FOR SALE