Mathematics Mastery

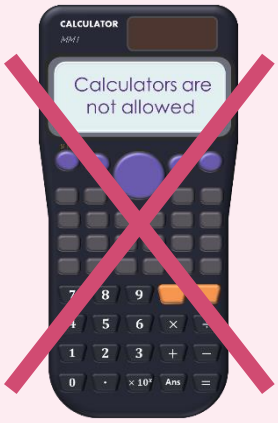
Name:

Maths teacher:

Year 7
Spring Assessment

You will need:

- Pen or pencil
- Scrap paper



No calculators are allowed

Answer all the questions.

There are two parts to this test.

Section A is multiple choice.
There are 30 questions.
Circle one answer for each question (either A, B, C or D).
You may do your working on this paper or on scrap paper.

Section B is open response.
There are 10 questions.
Write your answer to each question.
Show all your working on this paper.

Mathematics Mastery

Section A: Multiple choice

1. Work out $376 + 453$

   A. 7129
   B. 829
   C. 729
   D. 739

2. Write the following numbers in order of size, starting with the smallest: $-2, 3, -4, -1$

   A. $-4, -2, -1, 3$
   B. $3, -1, -2, -4$
   C. $-4, 3, -2, -1$
   D. $-1, -2, 3, -4$

3. Which of these numbers is the largest?

   A. 3.08
   B. 3.73
   C. 3.7152
   D. 3.59

4. Which of the following is a square number?

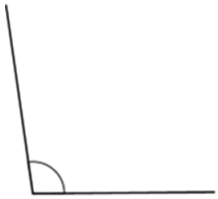
   A. -4
   B. 2
   C. 9
   D. 50

5. Work out 0.402×10?

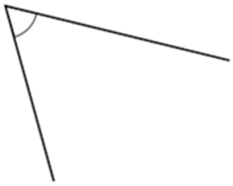
   A. 0.0402
   B. 0.4020
   C. 4.02
   D. 4.2

6. Which of these angles is **obtuse**?

A.



B.



C.



D.



7. Simplify $4x + 2y - 3x + y$

A. $7x + 3y$

B. $4xy$

C. $1 + 3y^2$

D. $x + 3y$

8. Which of the following is a factor of 45?

A. 15

B. 0

C. 4.5

D. 90

9. Expand $4(2x - 3)$

A. $8x - 12$

B. $42x - 3$

C. $8x - 3$

D. $42x - 43$

10. Work out $-3 - -1$

A. -4

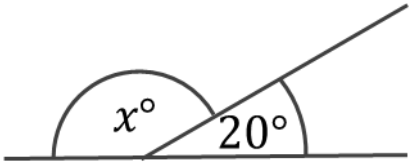
B. -2

C. 4

D. 2

11. Work out the value of x

A. $340°$
B. $200°$
C. $70°$
D. $160°$



12. Which of these numbers is a multiple of both 4 **and** 6?

A. 2
B. 16
C. 18
D. 24

13. Work out the value of $8 - (9 - 4)$

A. -5
B. 13
C. 3
D. -3

14. Work out 4×-3

A. 1
B. 7
C. 12
D. -12

15. Find the value of $2r + s$ when $r = 5$ and $s = 1$

A. 26
B. 12
C. 11
D. 10

16. Work out $72.3 - 15.19$

A. 57.11
B. 57.21
C. 63.29
D. 67.21

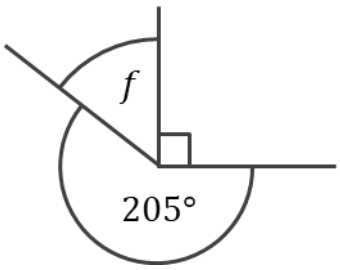
17. Given that $5 \times 76 = 450$
work out the value of 5×7.6

A. 4500
B. 450
C. 45
D. 4.5

18. Work out $1.02 \div 100$

A. 0.102
B. 0.0102
C. 0.00102
D. 102

19. Work out the size of angle f



A. $65°$
B. $155°$
C. $25°$
D. $115°$

20. Work out $20 \div 4 + 2 \times 6$

A. $\frac{20}{16}$
B. 17
C. 20
D. 42

21. Which of these is 72 written as a product of its prime factors?

A. 12×6
B. $3^2 \times 8$
C. $2^3 \times 3^2$
D. $2^2 \times 3^3$

22. Factorise $15a - 10$

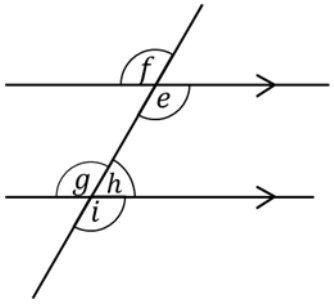
A. $5(10a + 5)$
B. $5a$
C. $5(3a - 10)$
D. $5(3a - 2)$

23. What is -3 squared?

A. -6
B. 6
C. -9
D. 9

24. Which angle is vertically opposite angle e?

A. f
B. g
C. h
D. i



25. Work out $-8 \div -2$

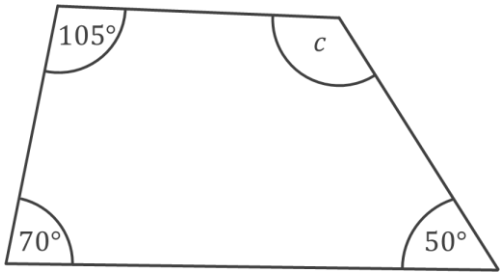
A. -10

B. -4

C. -6

D. 4

26. Work out the size of angle c



A. $105°$

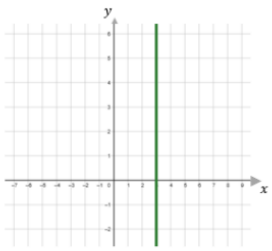
B. $110°$

C. $130°$

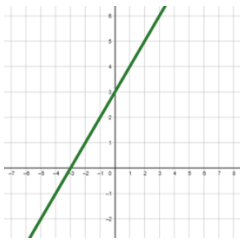
D. $135°$

27. Which of these graphs shows the line $y = 3$?

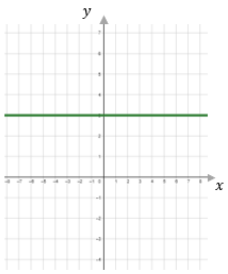
A.



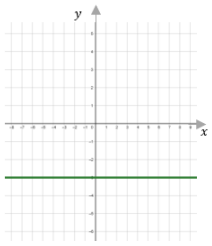
B.



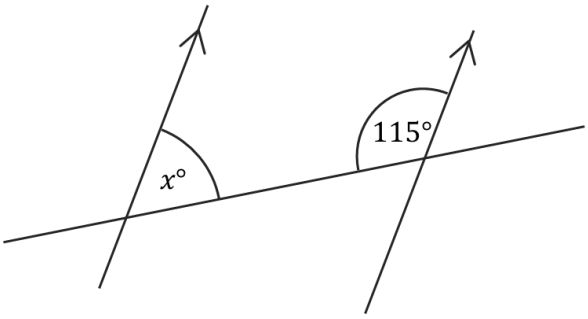
C.



D.



28. Work out the value of x.



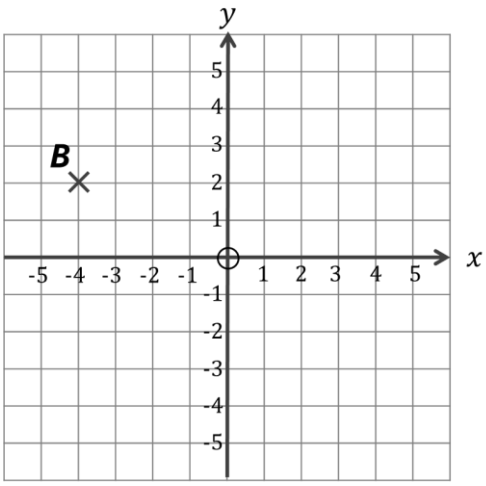
A. $115°$

B. $65°$

C. $245°$

D. $75°$

29. What is the coordinate of point B?



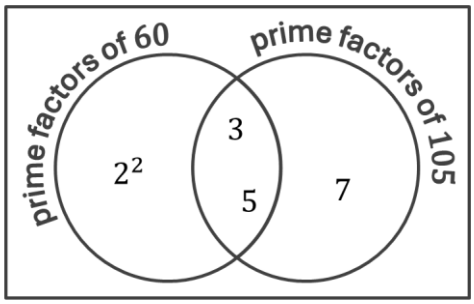
A. $(4, -2)$

B. $(-4, 2)$

C. $(-4, -2)$

D. $(2, -4)$

30. What is the highest common factor of 60 and 105?
Use the Venn diagram to help you.



$$60 = 2^2 \times 3 \times 5$$

$$105 = 3 \times 5 \times 7$$

A. 15

B. 14

C. 210

D. 420

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Name:

Maths teacher:

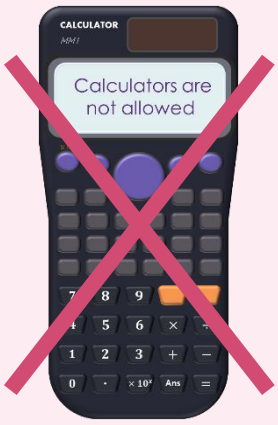
Year 7

Spring Assessment

Part B: Open response

You will need:

- Pen or pencil



No calculators are allowed.

Answer all the questions.

Section B is open response.
There are 10 questions.
Write your answer to each question.
Show all your working on this paper.

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Section B: Open response

1. The temperature in London at 9am was $-3°C$.
   By midday, it had risen by $7°C$.

   Work out the temperature at midday.

   ……..℃

2. Fully factorise $12a - 20$

   ……..

3. Work out 32×27

   Show all your working.

   ……..

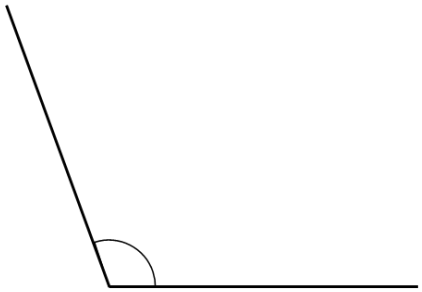
4. Work out $(3^2 + 1)^2$

……..

5. Find the value of $y^2 - xz$ when $x = 2,\ y = 1$ and $z = 3$

……..

6. Measure this angle as accurately as you can:



……..°

7. I set two snooze alarms after my alarm goes off at 7:00

My first snooze alarm goes off every 5 minutes.

My second snooze alarm goes off every 7 minutes.

How many minutes after 7.00 will both snooze alarms go off together?

……minutes

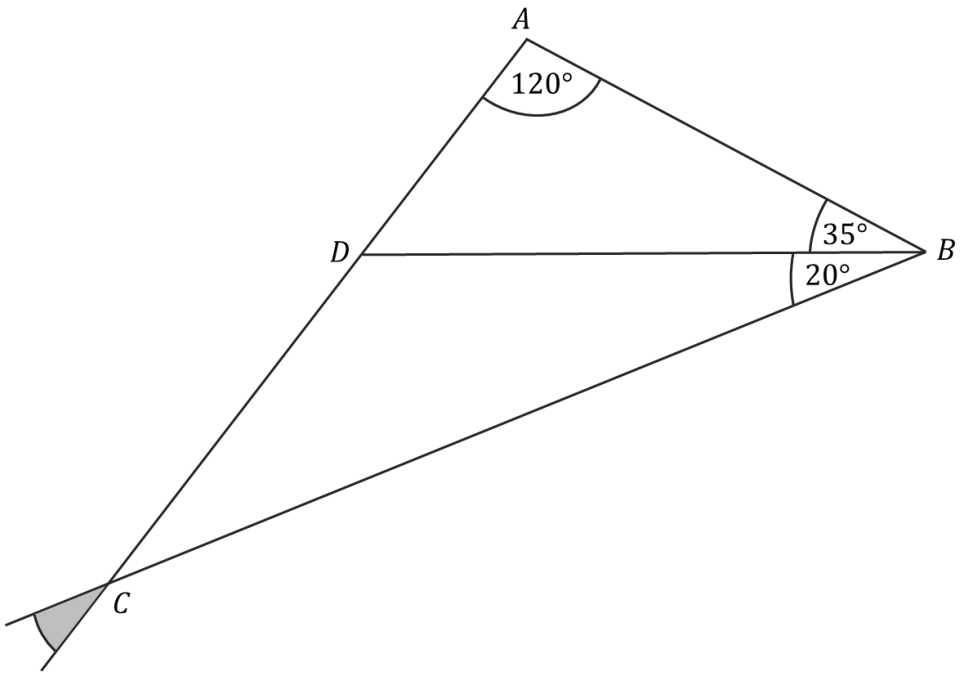
8. I have two identical dice.
They are special dice. These are the numbers on them.

-1	2	-3	4	-5	6

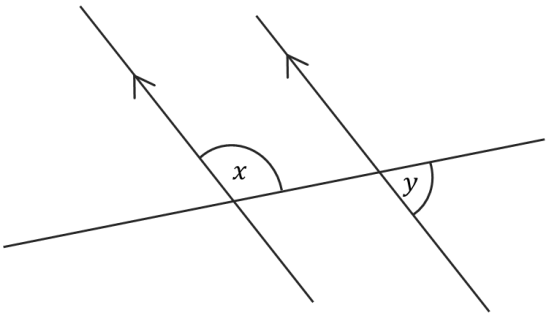
I roll them and get the sum of the two faces.
What is the **smallest** possible sum?

……

9. Work out the size of the shaded angle.
Give reasons for each step of your answer.



10. Write an equation linking x and y.
Give reasons for your answer.



END OF ASSESSMENT