🔢 CRGS Maths Practice Test

Sunday, 30th November 2024 | 60 minutes | 60 marks

Page 1 — (7 marks)

1. Calculate:

(a) 4289 + 578 =

(b) 6042 – 495 =

(c) 576 ÷ 9 = 66

(d) 2/5 + 3/4 = (Give answer as a simplified fraction)

(e) (24 ÷ 4) × (35 ÷ 7) =

(f) 3/5 ÷ 2/3 =

(g) Write 0.625 as a fraction in simplest form.

Page 2 — (5 marks)

2.

(a) How many centimetres are there in 3.65 metres?

cm

(b) A rectangle has area 560 m². Its length is 28 m.
What is its width?

Width = m

(c) Find the mean of: 3/4, 5/6, 2/3

Answer:

(d) A shop sells markers in packets of 15.
If a class needs 187 markers, how many full packets must be bought?

packets

(e) A girl saves the same amount each week. After 9 weeks she has saved £72. How much does she save each week?

£

Page 3 — (6 marks)

In a game, a touchdown is worth 7 points and a field goal is worth 3 points.

(a) What is the lowest score that is impossible to achieve?

(b) Write a score that can be achieved in two different ways.

Score =

(c) Find one way to score 41 points using any number of touchdowns and field goals.

Touchdowns: Field goals:

(d) If $Y = 4X$ and $Z = X - 5$, and $X + Y + Z = 55$, find the value of X.

X =

(e) Find Z.

Z =

(f) Find Y.

Y =

Page 4 — (6 marks)

4. Formula machines

A machine works as follows: **Multiply by 4 → add 15 → divide by 3**

(a) Input = 27

Output =

(b) Output = 21

What was the input? ____

(c) Find a negative number you can input so that the output equals the input.

Input = ____

5. Table of values

Complete the table for the formula 6n – 7:

n	6n – 7
1	
3	
8	
12	

Page 5 — (5 marks)

6. Rounding

M and N are whole numbers.

M rounds to 560 to the nearest 10

N rounds to 420 to the nearest 10

(a) Largest possible value of M = ____

(b) Smallest possible value of N = ____

(c) Largest possible value of M + N = ____

(d) Smallest possible value of M – N = ____

7. Petrol question

A car uses 850 cm³ of fuel to travel 12 km.

(a) How far can it travel on 3400 cm^3?

km

(b) How much fuel (in litres) is needed for 60 km?
(1 litre = 1000 cm^3)

litres

Page 6 — (5 marks)

8. Averages

A boy plays a game. His average score for 5 attempts is 18.

(a) What is the total of his first 5 attempts?

(b) On the 6th attempt he scores 33.
What is his new average?

9. Angles

(a) In an isosceles triangle, two sides are equal. If angle A = 68°, and sides A and B are equal, find angle C.

Angle C = °

(b) If angle B = 62° and C = 74°, find angle A.

Angle A = °

(c) Three lines meet at a point. Two angles shown are 110° and 95°. Find angle x.

x = °

Page 7 — (6 marks)

10. True or false

(a) All multiples of 6 are even. Select...

(b) Some square numbers are also triangular numbers. Select...

(c) The mean of two even numbers is always even. Select...

(d) The product of two odd numbers is always odd. Select...

11. Money

A bicycle costs £180. In a sale it is reduced by 15%.
A voucher gives a further 10% off the sale price.

(a) Sale price before voucher discount = £

(b) Final price = £

Page 8 — (5 marks)

The chart shows the number of books read by students in a week:

Mon: 6, Tue: 10, Wed: 8, Thu: 12, Fri: 9, Sat: 15, Sun: 18

12.

(a) Total books read from Mon–Fri =

(b) Mean books read for Thu, Fri, Sat =

(c) Each weekday book earns 2 points and each weekend book earns 3 points.
Total points for whole week =

13. Percentages

(a) Find 45% of £240.
£

(b) 15% of X = 36
Find X.
X =

Page 9 — (6 marks)

14. Sequences

(a) What is the next number in the sequence: 2, 5, 11, 23, 47, ___

(b) The nth term of a sequence is 5n + 3.
What is the 20th term?

(c) A sequence starts: 3, 7, 11, 15, 19...
Write a formula for the nth term.

15. Shapes

(a) How many faces does a triangular prism have?

(b) A regular hexagon has a perimeter of 48cm.
What is the length of one side?

cm

(c) How many lines of symmetry does a regular octagon have?

Page 10 — (4 marks)

A train timetable:

Station	Morning	Afternoon
Oakville	08:15	13:42
Riverside	08:58	14:20
Brookhaven	09:37	15:08
Hilltop	10:22	15:55

16.

(a) Time from Oakville to Hilltop (morning):

hours minutes

(b) How much longer does the afternoon train take from Riverside to Brookhaven than the morning train?

minutes

(c) If someone takes the morning train to Brookhaven and waits for the afternoon train back to Oakville, how long can they spend in Brookhaven?

hours minutes

(d) Express trains reduce the Hilltop → Oakville afternoon journey by 20%. Original time is from 15:55 back to 13:42 (2 hours 13 minutes = 133 minutes).

New journey time = minutes

Page 11 — (3 marks)

17. Algebra

(a) These shapes have equal perimeter. Find x.
Shape 1: sides (x + 2), (x + 2), (4x – 4), (4x – 4)
Shape 2: all sides = 19

x =

(b) These rectangles have equal area. Find y.
Rectangle 1: 6 × (4y)
Rectangle 2: 18 × 12

y =

(c) Solve: 7m – 5 = 6m + 11

m =

Page 12 — (7 marks)

18. Problem solving

(a) Emma multiplies a number by 23 and gets 391.
What was the original number?

(b) Jack squares his number and gets the same as when he multiplies it by 15.
What is his positive number?

19. Fractions and decimals

(a) Convert 7/8 to a decimal.

(b) Which is larger: 5/7 or 3/4?

(c) Arrange in order from smallest to largest: 0.6, 2/3, 5/8

20. Challenge

(a) A number is divided by 8 and then 12 is added. The result is 27.
What was the original number?

(b) Write the missing digit: 5_4 is divisible by both 6 and 9.