# Weekly check: Year 9 part 2

Year 9 | Key Stage 3 | Part 2: the second third of the year | 20 questions, 54 marks

**KS3 Maths weekly check**

Scan for the solutions

**Name:** _____ **Date:** _____ **Score:** _____ **/ 54**

**1** A bag contains 4 green counters, 7 yellow counters and 9 white counters.

A counter is taken from the bag at random.

Find the probability that the counter is **not** green.

(2 marks)

Answer _____

**2** Priya thinks of a number.

She multiplies the number by 4 and then subtracts 9.

Her answer is 35.

Work out the number Priya thought of.

(3 marks)

Answer _____

**3** a. Solve $5 \leq 3x - 4 < 14$

b. Show your answer to part a on the number line.




(3 marks)

Answer _____


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**4** Here are the first four terms of a sequence.

14 11 8 5

a. Work out the next two terms of the sequence.

b. Write down the term-to-term rule of the sequence.

(3 marks)

Answer _____

**5** A bistro menu has 5 starters, 8 main courses and 4 desserts.

Callum chooses one starter, one main course and one dessert.

Work out the number of different three-course meals Callum can choose.

(2 marks)

Answer _____

**6** The number line shows an inequality.

a. Write down the inequality shown, using $x$.

b. Write down the smallest integer that satisfies the inequality.




(2 marks)

Answer _____

**7** a. Simplify $t^8 \div t^3$

b. Simplify $(k^4)^5$

c. Simplify $\dfrac{12x^6y^3}{4x^2y}$

(3 marks)

Answer _____


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**8** a. Make $r$ the subject of $C = 2\pi r$

b. Make $b$ the subject of $P = 2(a + b)$

c. Make $x$ the subject of $y = \frac{x + 4}{3}$

(3 marks)

Answer _____

**9** 40 students each chose one sport. 15 chose football and 6 chose tennis. Ellie is going to draw a pie chart of the results.

a. Work out the angle Ellie should use for football.

b. Work out the angle Ellie should use for tennis.

(3 marks)

Answer _____

**10** The diagram shows a trapezium.

a. Work out the area of the trapezium.

b. Work out the perimeter of the trapezium.

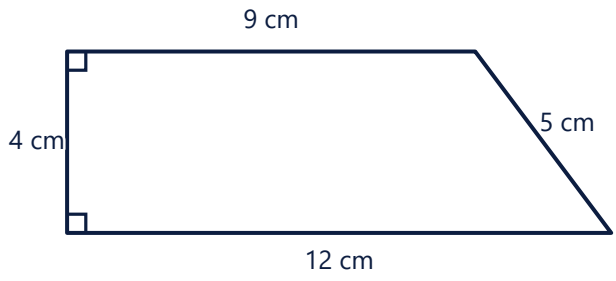



Diagram NOT accurately drawn

(3 marks)

Answer _____


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**11** a. The $n$th term of a sequence is $20 - 3n$
Write down the first three terms and work out the 10th term.

b. The $n$th term of another sequence is $n^2 + 2$
Write down the first three terms.

(3 marks)

Answer _____

**12** Make $k$ the subject of the formula

$m = \frac{k}{5} - 2$

(2 marks)

Answer _____

**13** On the number line, show the inequality $-1 < x \leq 3$




(2 marks)

Answer _____

**14** Choose the most suitable diagram for each set of data from this list.

pie chart  scatter graph  time series graph  frequency polygon

a. The temperature in a classroom, taken every hour during a school day.

b. The height and the arm span of each of 20 pupils.

c. The favourite crisp flavours of Year 9, to show what proportion chose each flavour.

d. The finishing times of 60 runners in a fun run, grouped into classes.

(2 marks)

Answer _____


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**15** a. In science, the distance $s$ metres travelled by a cart is given by

$s = ut + \frac{1}{2}at^2$

Work out $s$ when $u = 3$, $t = 4$ and $a = 2.5$

b. To change a temperature from °C to °F you can use $F = \frac{9C}{5} + 32$

Ruby's thermometer reads 25 °C. Change this temperature to °F.

(3 marks)

Answer _____

**16** Expand and simplify $(x + 2)(x + 3)(x + 4)$

(3 marks)

Answer _____

**17** a. A rectangular noticeboard has an area of 84 $cm^2$ and a length of 12 cm. Work out the width of the noticeboard.

b. A triangle has an area of 36 $cm^2$ and a base of 9 cm. Work out the perpendicular height of the triangle.

(3 marks)

Answer _____

**18** A circle has radius 6 cm.

a. Work out the circumference of the circle. Give your answer correct to 1 decimal place.

b. Work out the area of the circle. Give your answer correct to 1 decimal place.

(3 marks)

Answer _____


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**19** a. Write down the inverse of each operation.

(i) add 7 (ii) multiply by 4 (iii) divide by 3

b. Mia thinks of a number. She multiplies it by 3 and then adds 8. Her answer is 29.

Use inverse operations to work out Mia's number.

(3 marks)

Answer _____

**20** Ollie buys 4 cinema tickets and one large popcorn.

Each ticket costs £$t$. The popcorn costs £6.

He pays £38 altogether.

a. Write an equation in $t$.

b. Solve your equation to find the cost of one ticket.

(3 marks)

Answer _____

End of questions | Total 54 marks


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