Parkfield School

Year 9 assessment 1

Marks \_\_\_\_\_

46

50 minutes

**NON – CALCULATOR**

**Q1.**

How many minutes are there in hours?



Circle your answer.

180.5       210       330       350

**(Total 1 mark)**

**Q2.**

(a)  Solve  *x* − 3 = 14

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*x* = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(1)**

(b)  Solve  5*y* = 45

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*y* = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(1)**

(c)  Solve  8 + *w* = 6

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*w* = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(1)**

**(Total 3 marks)**

**Q3.**

(a)  How many edges are there on a square-based pyramid?

Circle your answer.

4       5       8       12

**(1)**

(b)  How many faces of a triangular prism are triangles?

Circle your answer.

2       3       4       5

**(1)**

**(Total 2 marks)**

**Q4.**

Complete the table to show equivalent fractions and percentages.

|  |  |
| --- | --- |
| **Fraction** | **Percentage** |
|  | 50% |
|  |  |
|  | 43% |
|  |  |

**(Total 3 marks)**

**Q5.**

Work out the value of     4(2*x* + 3*y*)     when     *x* = 8   and   *y* = − 3

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(Total 2 marks)**

**Q6.**

(a)  Work out  9174 ÷ 11

Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(2)**

(b)  Work out



Give your answer as a mixed number.

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(3)**

**(Total 5 marks)**

**Q7.**

Simplify  25 × 23

Circle your answer.

48        28        215        415

**(Total 1 mark)**

**Q8.**

A number is picked at random from the first four **prime** numbers.

A number is picked at random from the first four **square** numbers.

The two numbers are added to get a score.

(a)  Complete the table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Square numbers** | | | |
|  | **+** | **1** | **4** | **9** |  |
| **Prime numbers** | **2** |  |  |  |  |
| **3** |  |  | 12 |  |
|  |  |  |  |  |
| **7** |  |  |  |  |

**(4)**

(b)  What is the probability that the score is a **prime** number?

Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(1)**

**(Total 5 marks)**

**Q9.**

By rounding each number to the nearest 10,

estimate the answer to



You **must** show your working.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(Total 2 marks)**

**Q10.**

Work out  4 + 3 × 5 − 1

Circle your answer.

16       18       28       34

**(Total 1 mark)**

**Q11.**

Circle the expression that is equivalent to  3*a* − *a* × 4*a* + 2*a*

8*a*2 + 2*a*       12*a*2       5*a* − 4*a*2       3*a* − 6*a*2

**(Total 1 mark)**

**Q12.**

Divide 405 in the ratio  4 : 11

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(Total 3 marks)**

**Q13.**

Factorise     15*x* + 35*y* − 40*z*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(Total 1 mark)**

**Q14.**

Work out



Give your answer as a mixed number.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(Total 4 marks)**

**Q15.**

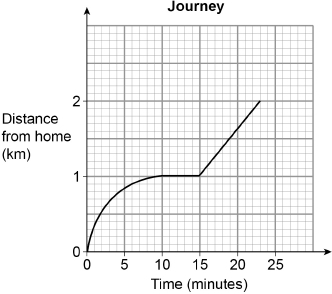
Anil’s home is 1 km from a shop.

He walked from home to the shop at a constant speed in 10 minutes.

He stayed at the shop for 5 minutes.

He walked home at a constant speed in 8 minutes.

Anil drew this distance-time graph to represent his journey.



Make **two** criticisms of his graph.

Criticism 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Criticism 2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**(Total 2 marks)**

**Q16.**

Circle the volume, in cm3, of a cylinder with radius 5 cm and height 8 cm

40*π*       80*π*       200*π*       1600*π*

**(Total 1 mark)**

**Q17.**

Write 36 as a product of prime factors.

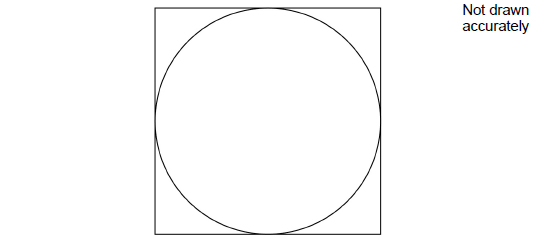
Give your answer in index form.

Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**(Total 3 marks)**

**Q18.**

Here is a circle touching a square.



The area of the square is 64 cm2

Work out the area of the circle.

Give your answer in terms of *π*.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cm2

**(Total 3 marks)**