DOWNSIDE

SCHOOL

DOWNSIDE SCHOOL MATHEMATICS DEPARTMENT

11+ Scholarship Examination

SPECIMEN PAPER B

Time Allowed: 1 hour

Name: _____

- Answer all questions in this paper.
- Try to get correct solutions rather than hurrying.
- You may **NOT** use a calculator throughout the paper.
- It is important that you demonstrate every stage of your working.

1   Calculate the answers to the following sums:

(a)   4 2 · 9 3

         1 9 · 2 6 5 +
      _____

      _____

(b)   3 5 1 · 3

         5 8 · 1 4 9 –
      _____

      _____

(c)   5 2 8 3

           4 5 8 X
      _____

      _____

(d)   9 0 5 3 2

              2 6 ÷
      _____

      _____

(e) $7\frac{2}{7} - 3\frac{3}{5}$

(f) $3\frac{1}{8} \div 5\frac{5}{6}$

Space for additional working:

2   Fill in the blank squares with a number to make these sums correct:

(a) $2\frac{7}{8}$ + [   ] = $7\frac{3}{5}$

(b)   [   ] X 2 2 = 1 4 2 6 2 6

(c)   (21 X 13) + [   ] = 3 7 6

3   Margaret thinks of a number. She divides this number by 11 and then adds 21.
     Her answer is 100. What was her original number?
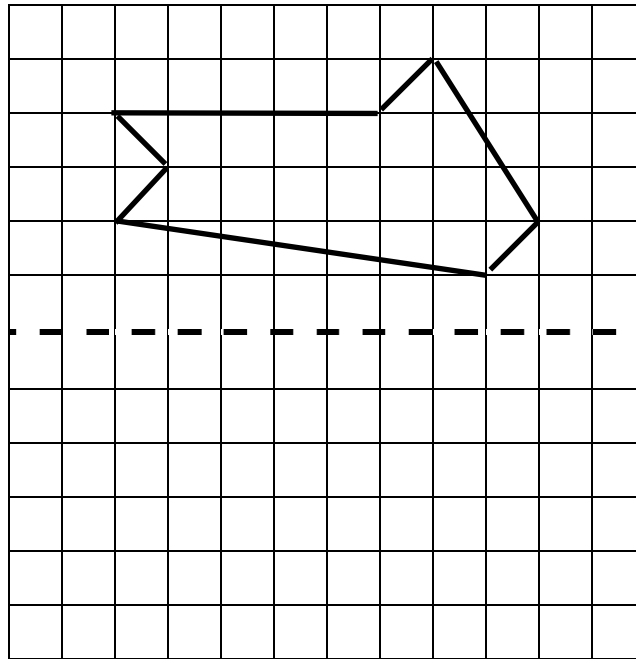
                              Answer: _____

4   An isosceles triangle has a perimeter of 78 cm. One of the sides is 33 cm. What are
     the lengths of the other two sides (NOTE: there are two possible answers to this)
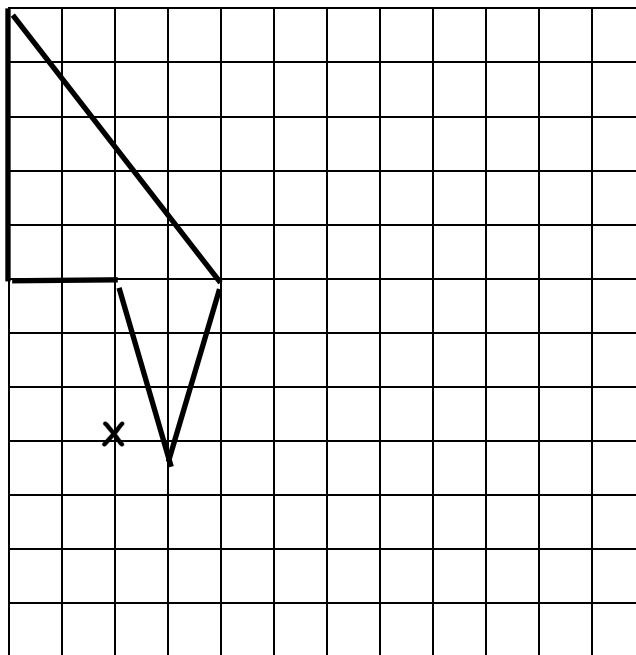
                    Answer: _____ cm   and _____ cm
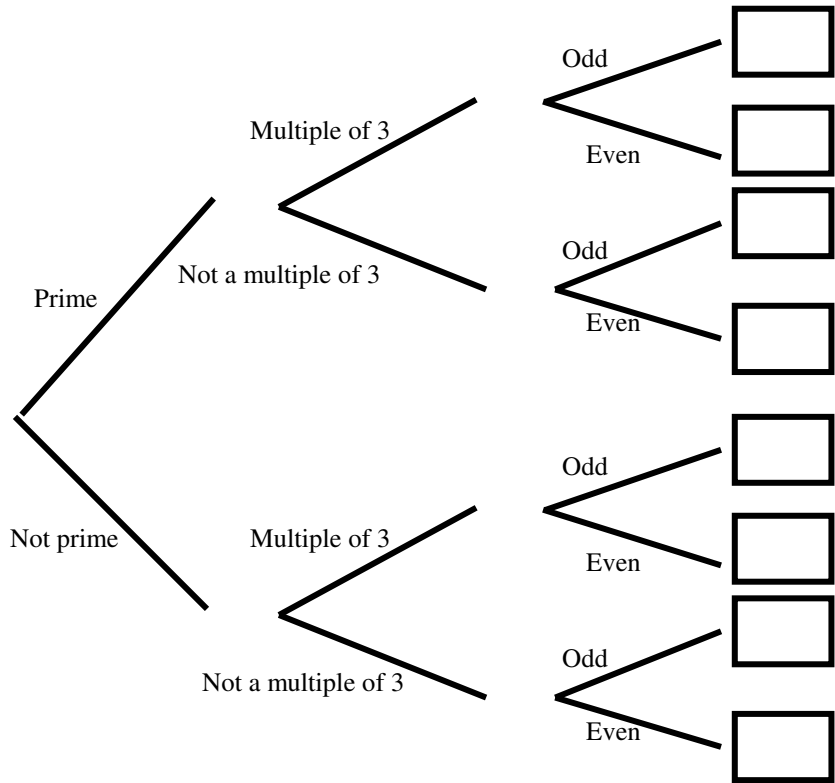
                        OR: _____ cm   and _____ cm

5   (a)   Reflect the shape shown on the grid below across the mirror line (shown in bold dashes)

(b)   Rotate the shape shown 90° clockwise about point X

6   Use the sorting diagram below to sort the numbers 13, 14, 15, 16, 17, and 18, placing each one in one of the boxes at the end. (NOTE: Not every box will be filled in)

Odd
Multiple of 3
Even
Odd
Not a multiple of 3
Even
Prime

Not prime
Odd
Multiple of 3
Even
Odd
Not a multiple of 3
Even

7   Add the next two numbers to each of the following sequences, in the boxes provided:

(a)   32   63   94   125   ☐   ☐

(b)   3   7   15   31   ☐   ☐

(c)   12   8.5 5   1.5   ☐   ☐

(d)   3.53   5.04   6.55   8.06   ☐   ☐

8   The full information for coaching fees and examinations is shown in the table below:

USAB COACHING COURSE OVERVIEW – HOURS, COURSE FEES AND ACCREDITATION FEES						
COURSE	COURSE SUMMARY AND HOURS		POST COURSE PRACTICAL	ASSIGNMENT HOURS	COURSE PARTICIPATION FEE	COACH ACCREDITATION FEE VALID 18 MONTHS (included in the participation fees)
	COURSE SUMMARY	TOTAL HRS.				
101	Introduction to the game for both adults and juniors with an emphasis on fun.	6	NONE	NONE	$25	NONE
1	Introduction to adults for teaching the game to adults and juniors with an emphasis on fun and fundamentals.	15	15h	5h	$75	NONE
2	Introduction to competition with an emphasis on skill and tactical acquisition for competition.	25	45h	10h	$100	$20
3	High performance development with an emphasis on skill and tactical refinement.	50	100h	20h	$150	$30
4	High performance development with an emphasis on preparation for world class competition.	100	150h	20h	$250	$30

Note:
1. To maintain accreditation, coaches have to attend a refresher course every two years if they do not coach actively.
2. All coaches to register for courses
3. Foreign coaches who have taken courses before can apply for equivalency through RCDs
4. Fast tracking will be the prerogative of USAB Coaching Department
5. Course participants must be at least 18 years old; good standing with community and USAB; participant eligibility to attend courses depends on satisfying course prerequisites

(a)   How many hours in total will it take to complete courses 2 and 3, including the practicals and the assignments?
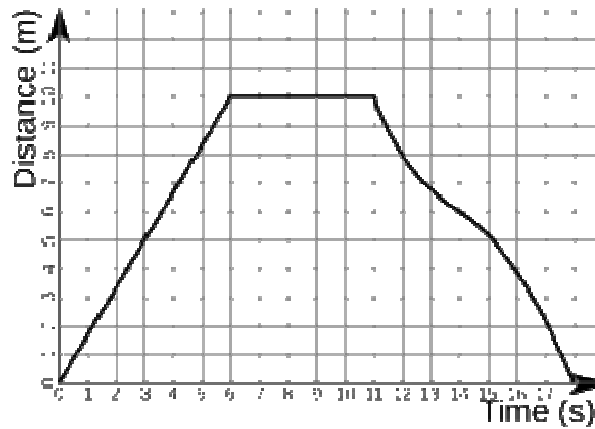
Answer: _____

(b)   What is the total participation fee to complete all 5 levels?

Answer: _____

(c)   A large sports firm wants all 13 of its coaches fully and totally trained – all levels plus coach accreditation at all levels. How much will it cost them?

Answer: _____

9   The diagram below shows the distance that a woodlouse is from its starting point in the first few seconds of an experiment.

(a)   Explain the shape of the graph immediately between the 6th and the 11th second?

(b)   What is the woodlouse's average speed, in metres per second, over the first 6 seconds?

                                                    Answer: _____

(c)   How long from the start of the experiment before the woodlouse returns to its starting point?

                                                    Answer: _____

10 One angle of a quadrilateral is 72°. The other three angles are all the same. How large are each of the other three angles?

Answer: _____

11 Peter is building an extension. He purchases 24 kg of sand. He uses a third of this in building the foundation. He then uses 4 further kilograms on a patio area, and find he only needs another three quarters of the remaining sand. How much sand will be wasted?
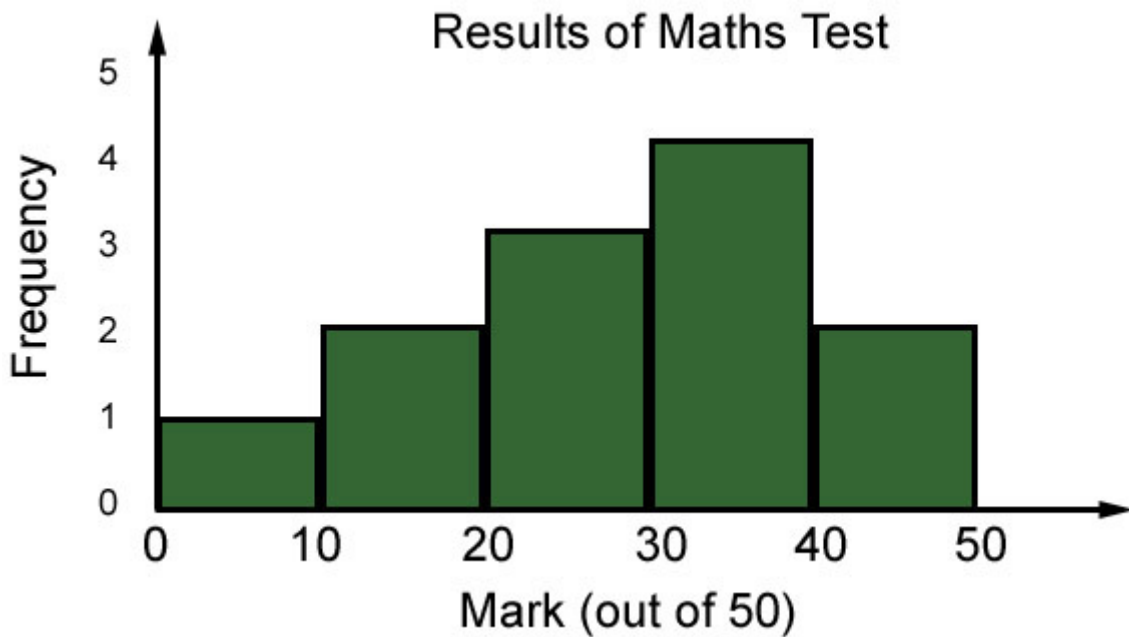
Answer: _____

12 What is:

(a) 42% of 560 m?

Answer: _____

(b) 82½% of £756?

Answer: _____

13   The results of a maths test taken by a group of students is summarised on the bar chart below:

Results of Maths Test

a)   How many students scored between 10 and 20 marks?

Answer: _____

b)   How many students are there is this class in total?

Answer: _____

c)   If any student scoring between 10 and 20 was given a gold start, any students scoring between 20 and 30 was given 2 gold stars, between 30 and 40 was given 3 gold stars, and scoring more than 40 was given 5 gold stars, how many gold stars were the group awarded in total?
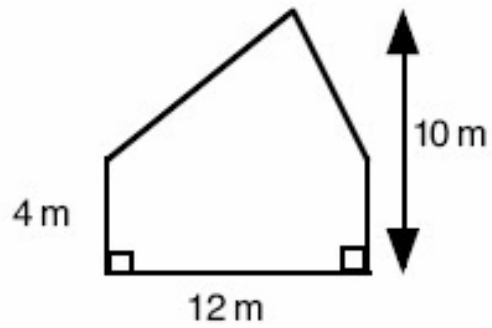
Answer: _____

15   Paul runs a marathon. He manages the first 5 miles in 37 minutes. The next 5 miles take an average of 8 minutes each. He then has a pain in his side, so stops for 22 minutes. The remainder of the run takes 2 hours and 33 minutes. How long does it take Paul in total to complete the marathon?

Answer: _____

16   30 children are going on a school trip. The trip costs £5.75 including lunch. However the students may pay only £3.45 and bring their own packed lunch if they wish. The total cost of the trip is £154.10. How many of the students took a packed lunch?

Answer: _____

17   Find the area of this shape:

Answer: _____m^2