# King Henry VIII School

## Entrance Examination
## Sample Mathematics Paper

**Name: ..... Candidate Number: .....**

**Read the following carefully:**

Do not open this booklet until you are told to do so.
Answer as many questions as you can.
Write your answers in the spaces provided.
**Any necessary working should be written in the available space**: there is extra space at the end of this booklet if you require it. You may not use a calculator.
Make alterations clearly.
If you cannot do a question, leave it and go to the next: you may return later, if you wish, to any question you left out.
You will have 45 minutes for this paper and will be told the time every 15 minutes as follows:

1. 15 minutes gone.
2. 30 minutes gone; 15 minutes left.
3. Time. Stop writing.

**Not to be filled in by pupil**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

| Total |
|---|
| |

**1** Complete the following:

a. $7 \times 5$ = .....

b. $7 \times 8$ = .....

c. $12 \times 9$ = .....

d. $42 \div 6$ = .....

e. $81 \div 9$ = .....

f. $84 \div 12$ = .....

**2** Work out 498 + 349

Ans: .....

**3** Work out 581 – 229

Ans: .....

**4** Work out 704 – 457

Ans: .....

**5** Work out 345 × 5

Ans: .....

**6** Work out 789 × 6

Ans: .....

**7** Work out 495 ÷ 9

Ans: .....

**8** Work out 689 ÷ 13

Ans: .....

**9** Work out $53 \times 58$

Ans: .....

**10** Calculate $5.221 + 5.8$

Ans: .....

**11** Calculate $6 - 4.226$

Ans: .....

**For Questions 12-15, use the clock below.**




One **afternoon**, Eadie looks at the clock.

**12** Write the time in 12 hour clock

Ans: .....

**13** Write the time in 24 hour clock

Ans: .....

**14** Eadie's favourite television programme started 1 hour and 15 minutes ago. What time was this? Write your answer in either 12 or 24 hour clock.

Ans: .....

**15** Eadie has to catch a train at 1710. How long does she have before the train leaves?

Ans: .....hours, .....minutes

**16** Write this number **in figures**:

**Five Thousand And Three**

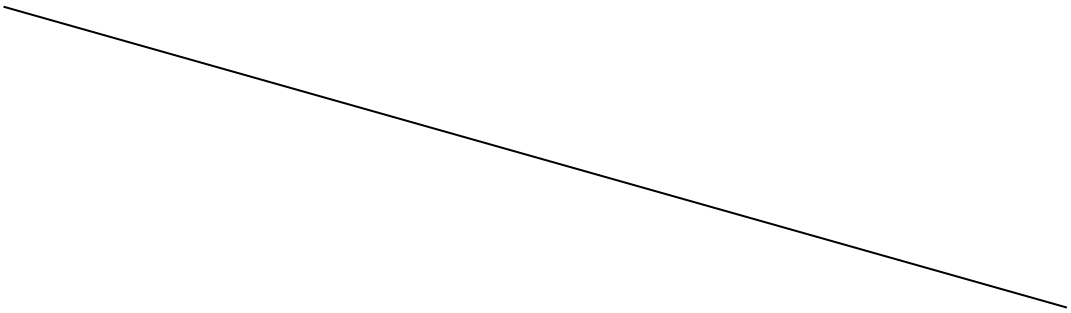
Ans: .....

**17** Write this number **in words**:

**10 203**

Ans: .....

**18** Measure this line to the nearest millimetre.



Ans: .....millimetres

**Questions 19 to 21 refer to the graph on the page opposite**

**19** Bella changes £ 24 into dinars. How many dinars does she have?

Ans: .....

**20** Charlotte changes 60 dinars into pounds. How many pounds does she have?

Ans: .....

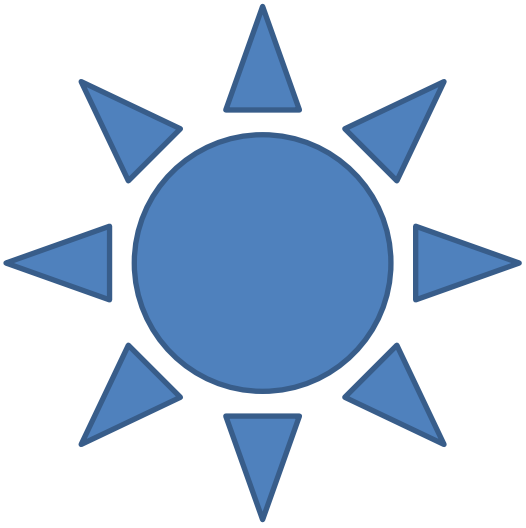
**21** Deirdre has £ 300 that she wants to turn into dinars. How many dinars will she receive?

Ans: .....

**For Questions 22-23**

Draw all of the lines of symmetry on the following shapes

**22**

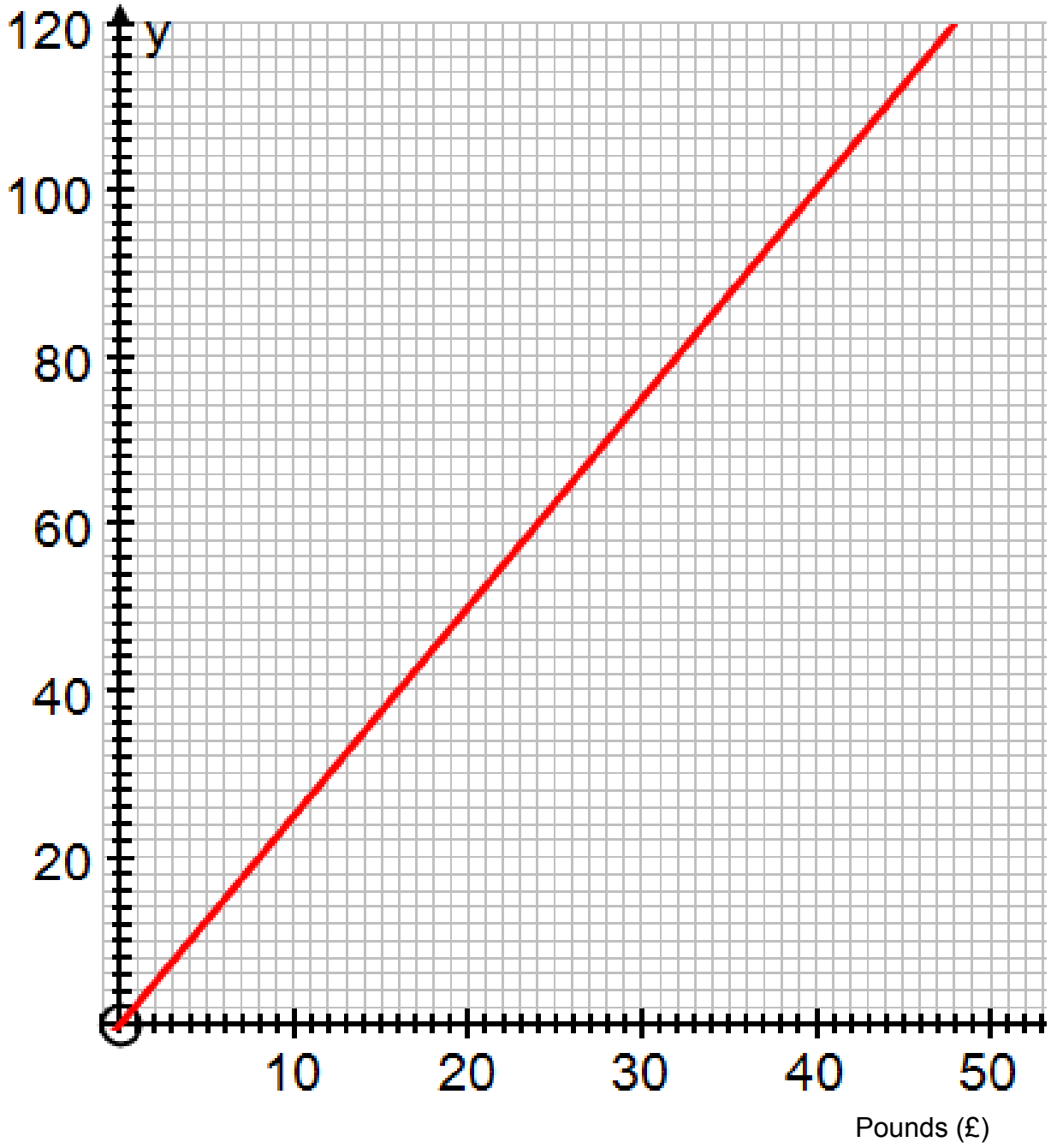


**23**



**Graph for Questions 19 to 21**

**Conversion Graph – Pounds to Dinars**



**24** Write $1\frac{3}{100}$ as a **decimal**.

Ans: .....

**25** Write 0.27 as a **fraction**.

Ans: .....

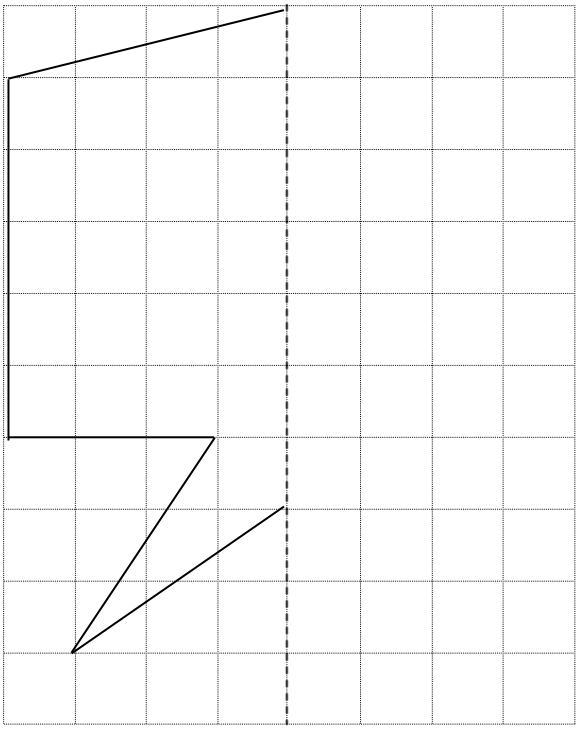
**26** **Circle** the number that is **closest to 6789**.

678 6798 6879 9876 6987

**27** **Circle** the number that is **closest to 2.5**.

3 2.1 2.494 2.449 2.51

**28** Reflect this drawing in the dashed line.



**For Questions 29 to 32, fill in the missing numbers**

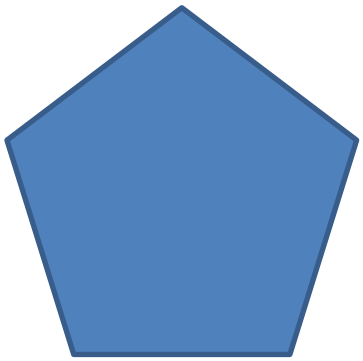
**29** 90 + ..... = 210

**30** ..... − 45 = 66

**31** 25 × ..... = 300

**32** 800 ÷ ..... = 20

**For Questions 33 to 34, write the mathematical name for the following shapes.**



**33** ……..



**34** ……..

**35** Bill has a bag containing 60 sweets. He eats a half of the sweets himself and then gives away a third of the sweets that remain. How many sweets does Bill have left?

Ans: .....

**Questions 36 to 38 relate to the triangle numbers.**

The Fibonacci numbers are a sequence of numbers formed so that the first two numbers are 0 and 1, and each subsequent number is the sum of the two previous numbers.

So the first eight terms of the sequence are:

0, 1, 1, 2, 3, 5, 8, 13

**36** What is the next Fibonacci number?

Ans: .....

The fourteenth Fibonacci number is 377 and the fifteenth Fibonacci number is 610.

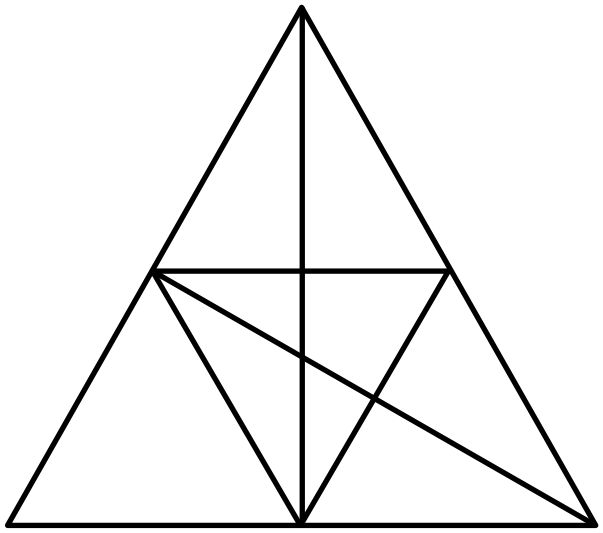
**37** What is the sixteenth Fibonacci number?

Ans: .....

**38** What is the thirteenth Fibonacci number?

Ans: .....

**39** How many triangles can you find in the diagram below?



Ans: .....

**40** Bill is twice as old as his son, who is 50 years younger than Bill's father. If the total of their ages is 142, how old is Bill?

Ans: .....

**END OF TEST – Please go back and check your answers.**

**BLANK PAGE**

**You may use this space if you wish.**

# King Henry VIII School

## Sample Entrance Examination

## Mathematics – Solutions

**All questions are worth two marks unless indicated with a * - these are worth one mark**

## ANSWERS

**1a* 35**
**1b* 56**
**1c* 108**
**1d* 7**
**1e* 9**
**1f* 7**
**2 847**
**3 352**
**4 247**
**5 1725**
**6 4734**
**7 55**
**8 53**
**9 3074**
**10 11.021**
**11 1.774**
**12* 3:35 pm**

13* 1535
14 2:20 pm
15 1 hr 35 mins
16 5003
17 Ten thousand two hundred and three
18 146 mm (may be different when printed)
19 60 dinars
20 £24
21 750 dinars
22 4 lines
23 2 diagonal lines
24 1.03
25 27/100
26 6798
27 2.494
28 Check with a mirror
29 120
30 111
31 12
32 40
33* Pentagon
34* Cuboid
35 20 sweets
36 21
37 987
38 233
39 27
40 46