**Practice Paper 5**



**4**(*a*)Write 0.57 as a fraction.

......................................................

**(1)**

(*b*)Write 0.02 as a percentage.

......................................................%

**(1)**

(*c*)Write  as a fraction in its simplest form.

......................................................

**(1)**

(*d*)Write  as a mixed number.

......................................................

**(1)**

(*e*)Work out  of 624

......................................................

**(1)**

**(Total for Question 4 is 5 marks)**

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**5** A sequence of shapes is made by shading squares on a square grid.



(*a*)On the grid, draw Shape number 4

**(1)**

(*b*)Complete the table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Shape number** | 1 | 2 | 3 | 4 | 5 |
| **Number of shaded squares** | 5 | 9 | 13 |  |  |

**(1)**

(*c*)Find the number of shaded squares in Shape number 8

......................................................

**(1)**

(*d*)Explain why no shape in the sequence is made by shading exactly 50 squares.

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**(1)**

**(Total for Question 5 is 4 marks)**

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**6** Nav makes bracelets using cord.

Nav has a 6 metre length of cord.

Each bracelet needs 17.5 cm of cord.

Work out the greatest number of bracelets that Nav can make.

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**(Total for Question 6 is 3 marks)**

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**7**(*a*)Simplify 10*x* + 4*y* + 3*x* – 6*y*

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**(2)**

(*b*)Solve 2*n* + 5 = 16

*n* = ......................................................

**(2)**

**(Total for Question 7 is 4 marks)**

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**8** The two‑way table shows some information about the 60 noodle meals eaten in a noodle

bar by each of 60 people last Friday.

|  |
| --- |
| **Type of noodle** |
|  | **Ramen** | **Soba** | **Udon** | **Total** |
| **Boiled** | 18 |  |  | 31 |
| **Fried** |  | 12 | 7 |  |
| **Total** |  |  | 15 | 60 |

(*a*)Complete the two‑way table.

**(3)**

One of the 60 people is selected at random.

(*b*)Write down the probability that this person ate Fried Udon noodles.

......................................................

**(1)**

**(Total for Question 8 is 4 marks)**

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**9** The diagram shows quadrilateral *ABCD* and isosceles triangle *ADE*, where *AE* = *AD*.

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*EDC* is a straight line.

Work out the value of *x*.

Give a reason for each stage of your working.

*x* = ......................................................

**(Total for Question 9 is 4 marks)**

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**12**(*a*)Expand *x*(4 – *x*)

......................................................

**(1)**

*t* = *ab* – *c*

*a* = 1.5 *b* = 2.4 *c* = –5.6

(*b*)Work out the value of *t*.

*t* = ......................................................

**(2)**

(*c*)Make *d* the subject of *y* = *dx* – *e*

......................................................

**(2)**

**(Total for Question 12 is 5 marks)**

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**13**(*a*)Express 180 as a percentage of 750

......................................................%

**(2)**

Zaina has booked a singer for a show.

The singer will get 94% of the total money from the ticket sales.

The cost of each ticket for the show is 32.50 dirhams.

Zaina sells 180 tickets.

(*b*)Work out the amount of money the singer will get.

...................................................... dirhams

**(3)**

**(Total for Question 13 is 5 marks)**

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**14**

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(*a*)Describe fully the single transformation that maps shape **A** onto shape **B**.

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**(2)**

(*b*)Describe fully the single transformation that maps shape **B** onto shape **C**.

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**(3)**

**(Total for Question 14 is 5 marks)**

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**16** Show that 

**(Total for Question 16 is 2 marks)**

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**18** The table gives information about the speeds, in kilometres per hour, of 80 motorbikes

as each pass under a bridge.

|  |  |
| --- | --- |
| **Speed****(*s* kilometres per hour)** | **Frequency** |
| 40 < *s* ⩽ 50 | 10 |
| 50 < *s* ⩽ 60 | 16 |
| 60 < *s* ⩽ 70 | 19 |
| 70 < *s* ⩽ 80 | 23 |
| 80 < *s* ⩽ 90 | 12 |

(*a*)Write down the modal class.

......................................................

**(1)**

(*b*)Work out an estimate for the mean speed of the motorbikes as they pass under the bridge.

Give your answer correct to 3 significant figures.

...................................................... kilometres per hour

**(4)**

**(Total for Question 18 is 5 marks)**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**20** E= {20, 21, 22, 23, 24, 25, 26, 27, 28, 29}

*A* = {odd numbers}

*B* = {multiples of 3}

List the members of the set

 (i) *A* ∩ *B*

...........................................................................................................

**(1)**

 (ii) *A* ∪ *B*

...........................................................................................................

**(1)**

**(Total for Question 20 is 2 marks)**

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**21**(*a*)Factorise fully 15*y*4 + 20*uy*3

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**(2)**

(*b*)Solve 4 – 3*x* = 

Show clear algebraic working.

*x* = ......................................................

**(3)**

**(Total for Question 21 is 5 marks)**

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**22**(*a*)Write 2 840 000 000 in standard form.

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**(1)**

(*b*)Write 2.5 × 10–4 as an ordinary number.

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**(1)**

**(Total for Question 22 is 2 marks)**

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**23** Chen invests 40 000 yuan in a fixed-term bond for 3 years.

The fixed-term bond pays compound interest at a rate of 3.5% each year.

(*a*)Work out the value of Chen’s investment at the end of 3 years.

Give your answer to the nearest yuan.

...................................................... yuan

**(3)**

Wang invested *P* yuan.

The value of his investment decreased by 6.5% each year.

At the end of the first year, the value of Wang’s investment was 30 481 yuan.

(*b*)Work out the value of *P*.

*P* = ......................................................

**(3)**

**(Total for Question 23 is 6 marks)**

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**24** The region, shown shaded in the diagram, is a path.



The boundary of the path is formed by two semicircles, with the same centre *O*, and two

straight lines.

The inner semicircle has a radius of 7 metres.

The path has a width of 2 metres.

Work out the perimeter of the path.

Give your answer correct to one decimal place.

...................................................... m

**(Total for Question 24 is 3 marks)**

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**25**(*a*)Simplify (2*x*3*y*5)4

......................................................

**(2)**

(*b*)(i) Factorise *x*2 + 5*x* – 36

......................................................

**(2)**

 (ii) Hence, solve *x*2 + 5*x* – 36 = 0

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**(1)**

**(Total for Question 25 is 5 marks)**

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**TOTAL FOR PAPER IS … MARKS**