**Non-Calculator Overlap questions November 2019 Paper 1**

**20/1** Find the Lowest Common Multiple (LCM) of 108 and 120

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

**(3)**

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**21/2** There are 60 people in a choir.

Half of the people in the choir are women.

The number of women in the choir is 3 times the number of men in the choir.

The rest of the people in the choir are children.

the number of children in the choir : the number of men in the choir = *n* : 1

Work out the value of *n*.

You must show how you get your answer.

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

**(4)**

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**22/3** Work out 

Give your answer as a mixed number.

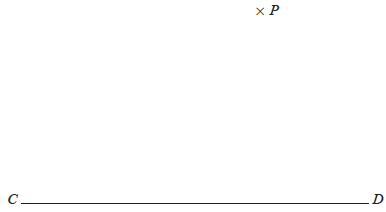
.......................................................

**(3)**

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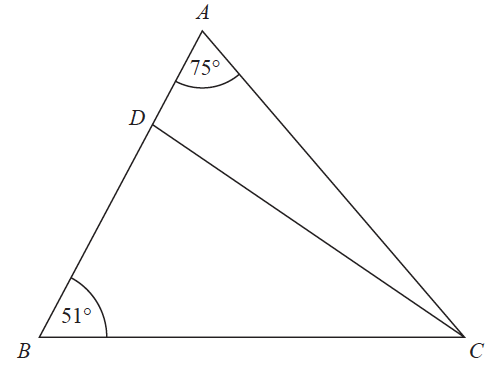
**23/4** Use a ruler and compasses to construct the line from the point *P* perpendicular to the line *CD*.

You must show **all** construction lines.



**(2)**

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****24/5** The diagram shows triangle *ABC*.

*ADB* is a straight line.

the size of angle *DCB* : the size of angle *ACD*

= 2 : 1

Work out the size of angle *BDC*.

....................................................... °

**(4)**

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**25/6** 4 red bricks have a mean weight of 5 kg.

5 blue bricks have a mean weight of 9 kg.

1 green brick has a weight of 6 kg.

Donna says, **“The mean weight of the 10 bricks is less than 7 kg.”**

Is Donna correct? You must show how you get your answer.

**(3)**

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**26/7** (*a*)Simplify (*p*2)5

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**(1)**

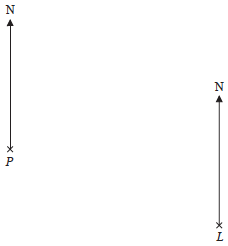
(*b*)Simplify 12*x*7*y*3 ÷ 6*x*3*y*

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

**(2)**

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**27/8** The accurate scale drawing shows the positions of port *P* and a lighthouse *L*.



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| --- |
| Scale: 1 cm represents 4 km. |

Aleena sails her boat from port *P* on a bearing of 070°

She sails for hours at an average speed of 12 km/h to a port *Q*.

Find (i) the distance, in km, of port *Q* from lighthouse *L*,

(ii) the bearing of port *Q* from lighthouse *L*.

distance *QL* = ....................................................... km

bearing of *Q* from *L* = ....................................................... °

**(4)**

**TOTAL FOR PAPER: 26 MARKS**