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AQA

Surname _____

Other Names _____

Centre Number_____

Candidate Number_____

Candidate Signature _____

I declare this is my own work.

A-level
DESIGN AND TECHNOLOGY: FASHION AND TEXTILES

Paper 1   Technical Principles

7562/1

Friday 5 June 2020   Morning

Time allowed: 2 hours 30 minutes

> **MATERIALS**
> **For this paper you must have:**
> ● **normal writing and drawing instruments**
> ● **a scientific calculator.**

At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]

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INSTRUCTIONS

- **Use black ink or black ball-point pen. Use pencil only for drawing.**

- **Answer ALL questions.**

- **You must answer all the questions in the spaces provided. Do not write on blank pages.**

- **Do all rough work in this answer book. Cross through any work you do not want to be marked.**

INFORMATION

- **The marks for questions are shown in brackets.**

- **The maximum mark for this paper is 120.**

DO NOT TURN OVER UNTIL TOLD TO DO SO

Answer ALL questions in the spaces provided.

0	1

Complete TABLE 1 by inserting the correct TWO fibres into each category from the selection below.

Do not use any fibre more than once.
[6 marks]

Acrylic   Angora   Carbon   Linen

Metallic   Mohair   Ramie   Silk

Tactel®   Wool

TABLE 1

CELLULOSE FIBRES	HAIR FIBRES	INORGANIC FIBRES

0 2   **Explain what is meant by the term 'denier'.**
[2 marks]

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[Turn over]

0 3   **Explain the difference between retro and vintage fashions. [4 marks]**

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0 4 **Explain THREE advantages of vertical in-house production. [3 marks]**

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15

[Turn over]

0 5   **TABLE 2 shows the time taken in minutes for a machinist to sew a pair of leggings.**

TABLE 2

Time taken, t, minutes	Frequency of leggings
$0 \leq t \leq 10$	2
$10 \leq t \leq 20$	9
$20 \leq t \leq 30$	17
$30 \leq t \leq 40$	27
$40 \leq t \leq 50$	18
$50 \leq t \leq 60$	7

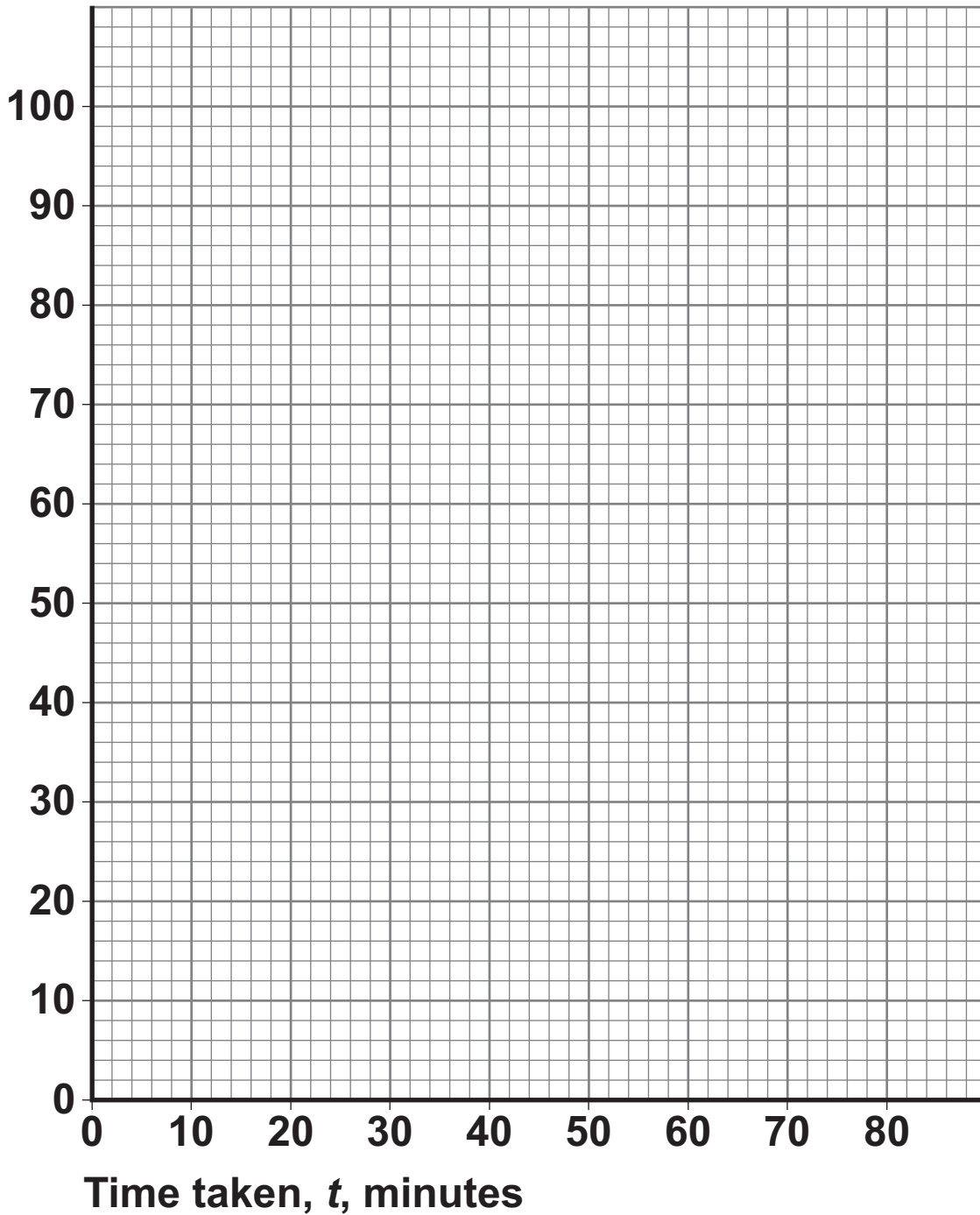0 5 . 1   **Use the data from TABLE 2 to complete the cumulative frequency in TABLE 3. [1 mark]**

TABLE 3

Time taken, t, minutes	Cumulative frequency
$0 \leq t \leq 10$	
$10 \leq t \leq 20$	
$20 \leq t \leq 30$	
$30 \leq t \leq 40$	
$40 \leq t \leq 50$	
$50 \leq t \leq 60$	

0 5 . 2 **Use the information from TABLE 3 to plot the graph in FIGURE 1. [2 marks]**

FIGURE 1

Cumulative frequency

Time taken, *t*, minutes

[Turn over]

| 0 | 5 | . | 3 |

Use your graph to estimate values for the:

median

_____

[1 mark]

upper quartile

_____

[1 mark]

lower quartile

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[1 mark]

| 6 |

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[Turn over]

0 6 **Analyse and evaluate the use of warp and weft knitted fabrics for casual wear.**
[6 marks]

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[Turn over]

0 7   **Discuss how computer controlled systems are used to reduce waste, improve production, and assist the distribution and storage of fashion products. [12 marks]**

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[Turn over]

0 8 TABLE 4 shows a specification for a range of dresses that include a decorative trim.

TABLE 4

DRESS SIZE	8	10	12	14	16	18
Amount of fabric in metres (m)	0.92	1.00	1.08	1.16	1.24	1.32
Length of trim in metres (m)	0.53	0.58	0.63	0.68	0.73	0.78
Retail price in £	19.99	19.99	19.99	19.99	21.99	21.99

0 8 . 1 The trim is sold in rolls of 34 m.

Calculate the number of size 8 dresses that can be made from one roll of trim.
[2 marks]

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Answer _____

0 8 . 2 **The manufacturing cost of dress size 12 is £6.92**

Calculate the percentage of profit for each size 12 dress.

Give your answer to TWO decimal places.
[2 marks]

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Answer _____

[Turn over]

0 8 . 3 The fabric costs the manufacturer £2.81 per metre.

Calculate the difference in fabric costs to the nearest penny, for dress sizes 10 and 18.
[2 marks]

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Answer _____

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0 9 **Define what is meant by the term 'smart material'. [1 mark]**

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1 0 **Give TWO reasons for using Bondaweb® in appliqué work. [2 marks]**

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[Turn over]

1 1 Describe the structure of slub and bouclé yarns and the appearance of fabrics made from them. [4 marks]

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1 2   **Explain the importance of production, planning and control (PPC) systems in the planning and manufacture of fashion products. [9 marks]**

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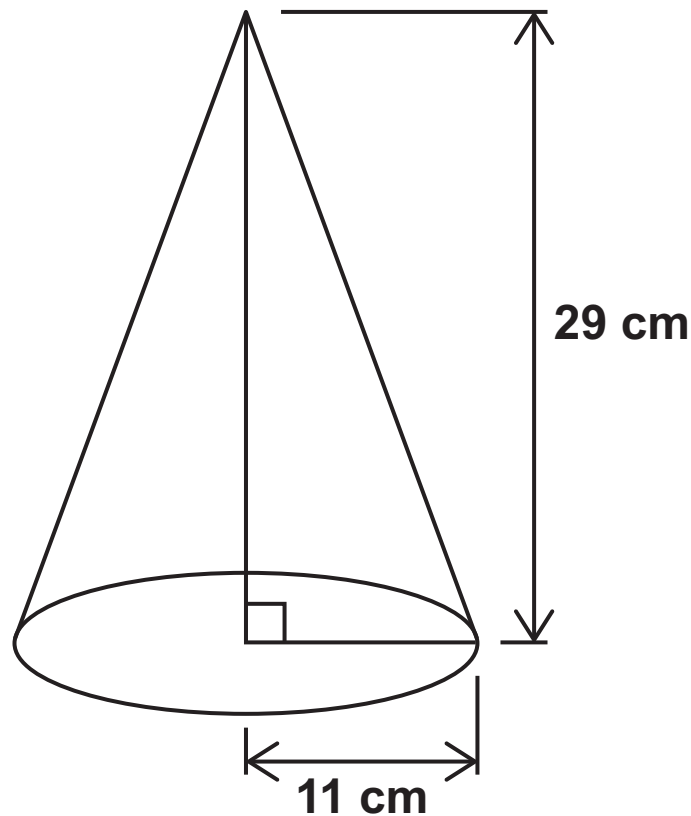
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[Turn over]

1 3   A designer creates a prototype of a novelty doorstop in the shape of a cone as shown in FIGURE 2.

FIGURE 2

29 cm

11 cm

Calculate the volume of the cone, using the

formula v = $\frac{1}{3} \pi r2 \, h$

Give your answer to the nearest whole number.

Show your working. [3 marks]

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Answer _____

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[Turn over]

1 4 Explain the difference between interfacing, underlining and interlining.

Give reasons for their use. [6 marks]

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1 5   **Explain how products are inclusive in their design to meet the needs of a wide range of consumers. [9 marks]**

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1 6 **Give THREE reasons why trade fairs are important to fashion designers. [3 marks]**

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[Turn over]

1 7   **Explain the role of the British Standards Institute (BSI) in ensuring fashion and textile products are safe for consumers.**
[6 marks]

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[Turn over]

1 8 **Describe how fringing, piping and diamantés can be used in a range of home furnishing products. [9 marks]**

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A designer needs to work out fabric and component requirements for the shape of the tent panel in FIGURE 3.

FIGURE 3

Not drawn to scale
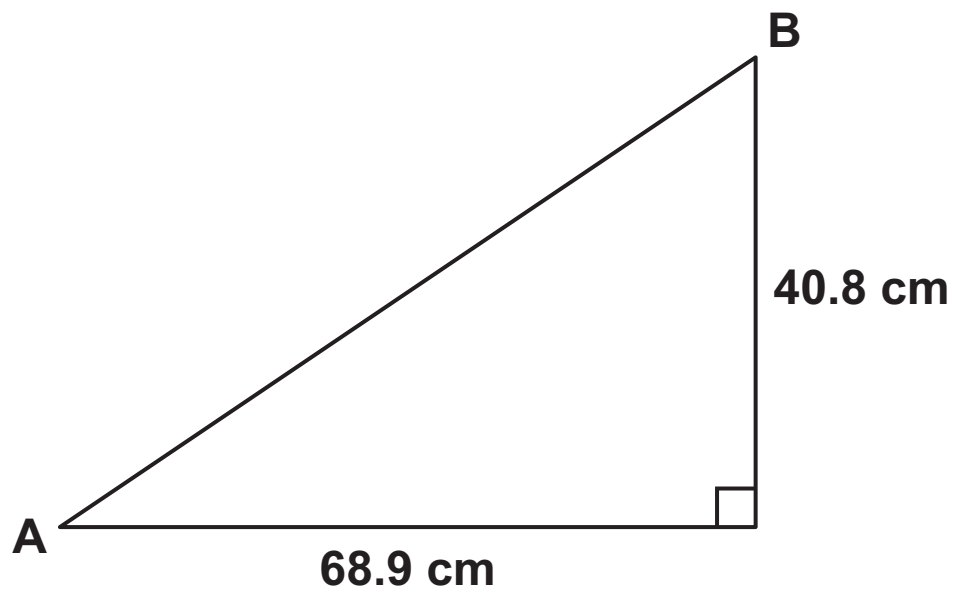
1 9 . 1

Calculate the area of the panel.

Show your working. [2 marks]

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Answer _____

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Calculate the length of zip required, from point A to point B. Give your answer to the nearest cm.

Show your working. [3 marks]

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Answer _____

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[Turn over]

2 0 Special occasion wear often has a lustre. Explain how fibres and fabrics contribute to the lustrous qualities of special occasion wear. [6 marks]

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[Turn over]

2 1 **Analyse and evaluate the use of natural and synthetic fibres in textiles.**

Consider how the sourcing, care and disposal of products affects sustainability. [12 marks]

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END OF QUESTIONS

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