Materials required for examination
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.
Tracing paper may be used.

Items included with question papers
Nil

Instructions
Use black ink or ball-point pen.
Fill in the boxes at the top of this page with your name, centre number and candidate number.
Answer all questions.
Answer the questions in the spaces provided – there may be more space than you need.
Calculators may be used.

Information
The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.
Questions labelled with an asterisk (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice
Read each question carefully before you start to answer it.
Keep an eye on the time.
Try to answer every question.
Check your answers if you have time at the end.
1. \(PQR\) is a right-angled triangle. 
\(PQ = 16\) cm.  
\(PR = 8\) cm.  

Calculate the length of \(QR\). 
Give your answer correct to 2 decimal places.

\[
\text{\underline{\hspace{10cm}}} \text{cm} \\
(3\text{ marks})
\]

2. \(XYZ\) is a right-angled triangle.  
\(XY = 3.2\) cm.  
\(XZ = 1.7\) cm.  

Calculate the length of \(YZ\).  
Give your answer correct to 3 significant figures.

\[
\text{\underline{\hspace{10cm}}} \text{cm} \\
(3\text{ marks})
\]
3. \(ABC\) is a right-angled triangle.

\(AB = 8\) cm,
\(BC = 11\) cm.

Calculate the length of \(AC\).
Give your answer correct to 3 significant figures.

\[\text{AC} = \ldots \ldots \ldots \ldots \text{cm} \] (3 marks)

4. \(MLN = 90^\circ\).
\(LM = 3.7\) m.
\(MN = 6.3\) m.

Work out the length of \(LN\).
Give your answer correct to 3 significant figures.

\[LN = \ldots \ldots \ldots \ldots \text{m} \] (3 marks)
5. 

\[ABCD\] is a rectangle. 
\[AC = 17\ \text{cm}.
\[AD = 10\ \text{cm}.

Calculate the length of the side \(CD\). 
Give your answer correct to one decimal place.

\[..........................\ \text{cm}\] 
\[3\ \text{marks}\]

6. 

The diagram shows three cities. 
Norwich is 168 km due East of Leicester. 
York is 157 km due North of Leicester.

Calculate the distance between Norwich and York. 
Give your answer correct to the nearest kilometre.

\[..........................\ \text{km}\] 
\[3\ \text{marks}\]
A rectangular television screen has a width of 45 cm and a height of 34 cm.

Work out the length of the diagonal of the screen.
Give your answer correct to the nearest centimetre.

......................... cm  (4 marks)

8.

Work out the length, in centimetres, of AM.
Give your answer correct to 2 decimal places.

......................... cm  (3 marks)
9. \[ ABCD \] is a trapezium. 
\( AD \) is parallel to \( BC \). 
Angle \( A = \) angle \( B = 90 \). 
\( AD = 2.1 \) m, \( AB = 1.9 \) m, \( CD = 3.2 \) m. 

Work out the length of \( BC \). 
Give your answer correct to 3 significant figures.

\[ \text{.......................... m} \]  
(4 marks)

10. \[ ABC \] is a right-angled triangle. 
\( AC = 6 \) cm. 
\( BC = 9 \) cm. 

Work out the length of \( AB \). 
Give your answer correct to 3 significant figures.

\[ \text{.......................... cm} \]  
(3 marks)
11.

In triangle \( ABC \),

\[ AB = 10 \text{ cm} \]
\[ AC = 20 \text{ cm} \]
\[ \text{angle } BAC = 90^\circ \]

Work out the length of \( BC \).
Give your answer correct to 3 significant figures.
You must state the units in your answer.

\[ \text{........................................ cm} \]

(4 marks)

12.

In the triangle \( XYZ \)

\[ XY = 5.6 \text{ cm} \]
\[ YZ = 10.5 \text{ cm} \]
\[ \text{angle } XYZ = 90^\circ \]

Work out the length of \( XZ \).

\[ \text{........................................ cm} \]

(3 marks)
13. \(ABCD\) is a trapezium.

\(AD = 10\) cm
\(AB = 9\) cm
\(DC = 3\) cm
Angle \(ABC = \text{angle } BCD = 90^\circ\)

Calculate the length of \(AC\).
Give your answer correct to 3 significant figures.

\[\text{cm}\]

(5 marks)

14. A ladder is 6 m long.
The ladder is placed on horizontal ground, resting against a vertical wall.

The instructions for using the ladder say that the bottom of the ladder must not be closer than 1.5 m from the bottom of the wall.

How far up the wall can the ladder reach?
Give your answer correct to 1 decimal place.

\[\text{m}\]

(4 marks)