# E4.3 Circle Problems (Area, Circumference and Arcs) Question Paper 

| Level | IGCSE |
| :--- | :--- |
| Subject | Maths (0580) |
| Exam Board | Cambridge International Examinations (CIE) |
| Level | Core |
| Topic | E4. Mensuration (Perimeters, Areas and |
|  | Volumes) |
| Sub-Topic | E4.3 Circle Problems (Area,Circumference\&Arcs) |
| Booklet | Question Paper |


| Time Allowed: | 12 mi |
| :--- | ---: |
| Score: | $/ 10$ |

## Grade Boundaries:

| $A^{*}$ | A | B | C | D | E | U |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $>85 \%$ | $75 \%$ | $60 \%$ | $45 \%$ | $35 \%$ | $25 \%$ | $<25 \%$ |

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$A, B, C, D$ and $E$ are points on the circumference of a circle, centre $O$.
$G A F$ is a tangent to the circle at $A$.
$A B$ is parallel to $E C$ and $A B=A D$.
(a) Write down the mathematical name of triangle $A B D$.

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(b) Find the value of
(i) $a$,

$$
\begin{equation*}
a=\text {. } \tag{1}
\end{equation*}
$$

(ii) $b$,

$$
\begin{equation*}
b= \tag{1}
\end{equation*}
$$

(iii) $c$,

$$
c=\text {................................................. [1] }
$$

(iv) $d$,

$$
d=
$$

(v) $e$.
$\qquad$
$e=$
(c) The diameter, $A C$, of the circle is 13 cm .

Calculate the circumference of the circle. Give your answer correct to 1 decimal place.

