## Module 2 Circle Theorems Answers

1) 

(a) 40
(b) 65
$\left|\begin{array}{l}1 \\ 1\end{array}\right|$
2)
(a) 52
(b) 64
(c) 71
1
2 M1 angle CED $=19$
3)

| (b) (i) | $\begin{array}{l}96 \\ \text { (ii) }\end{array}$ |
| ---: | :--- |
| 48 ft |  |
| (iii) | 97 ft |
| (iv) | 35 |

(c)
$20 n=360$ oe or $\frac{180(n-2)}{n}=160$ oe or $180(n-2)=8 \times 360$ oe or $8\left(\frac{360}{n}\right)=180-\frac{360}{n}$
18 www 3
ft 0.5 their (b)(i)
ft 145 - their (b)(ii)

M1 for $9 e=180$ oe allow diagram to show this if reasonably clear
or M1 for $8 \times 360$ or $\frac{8 \times 360}{n}$

1 ft
1 ft
1

M2
A1
4)
(b) (i) 29
(ii) 61 ft
(iii) 61 ft
(iv) 119 ft
(c) (i) 20
(ii) 110
5)
(a) (Angles in) same segment
(b) (i) 100
(ii) 43
(iii) 3

Allow (angles on) the same arc

B1 $O B C$ or $O C B=\frac{1}{2}(180-86)(=47)$

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6) 

| (a) $66^{\circ}$ | $\mathbf{2}$ | M1 for $90^{\circ}$ clearly identified as $A$ |
| :--- | :--- | :--- |
| (b) $33^{\circ}$ | $\mathbf{1}$ |  |
| (c) $123^{\circ}$ | $\mathbf{2}$ | B1 for $O B A$ or $O A B=57^{\circ}$ |

7
(a) 72
(b) 36
(c) 54
1
1
2ft
ft $90-$ (b) $\quad$ M1 $P O Q=108$
8)

| (a) | 35 |
| :--- | :--- |
| (b) | 55 |
| (c) | 55 |
| (d) | 125 |


| $\mathbf{1}$ |  |
| :---: | :--- |
| $\mathbf{1 f t}$ | $90-\mathbf{( a )} \quad$ but $b>0$ |
| $\mathbf{1 f t}$ | $=\mathbf{( b )}$ |
| $\mathbf{1 f t}$ | $180-\mathbf{( c )}$ |

