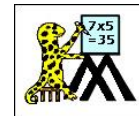Name                                    Date

# PERIMETER OF A SECTOR SHEET 1

*Use the radius and angle measurement to find the perimeter of these sectors. Give your answers to 1 decimal place.*

| | | WORKING OUT | PERIMETER |
|---|---|---|---|
| 1) | 10 cm / 65° | | |
| 2) | 7 in / 124° | | |
| 3) | 3 ½ ft / 162° | | |
| 4) | 52° / 1.8 m | | |
| 5) | 104° / 5 ¼ in | | |
| 6) | 72 cm / 34° | | |

# PERIMETER OF A SECTOR SHEET 1 ANSWERS

*Use the radius and angle measurement to find the perimeter of these sectors. Give your answers to 1 decimal place.*

| | | WORKING OUT | PERIMETER |
|---|---|---|---|
| 1) | 10 cm, 65° | P = 2r + L<br>L = (Θ/180) · π · r = (65/180) · π · 10 = (650/180) · π<br>L = (65/18) · π = 11.345 (to 3dp)<br>P = 2 x 10 + 11.345 = 20 + 11.345 = 31.345 | 31.3 cm<br>to 1 decimal place |
| 2) | 7 in, 124° | P = 2r + L<br>L = (Θ/180) · π · r = (124/180) · π · 7 = (868/180) · π<br>L = (217/45) · π = 15.149 (to 3dp)<br>P = 2 x 7 + 15.149 = 14 + 15.149 = 29.149 | 29.1 in<br>to 1 decimal place |
| 3) | 3 ½ ft, 162° | P = 2r + L<br>L = (Θ/180) · π · r = (162/180) · π · 3 ½<br>= (567/180) · π = (63/20) · π = 9.896 (to 3dp)<br>P = 2 x 3 ½ + 9.896 = 7 + 9.896 = 16.896 | 16.9 ft<br>to 1 decimal place |
| 4) | 52°, 1.8 m | P = 2r + L<br>L = (Θ/180) · π · r = (52/180) · π · 1.8<br>= (13/25) · π = 1.634 (to 3dp)<br>P = 2 x 1.8 + 1.634 = 3.6 + 1.634 = 5.234 | 5.2 m<br>to 1 decimal place |
| 5) | 104°, 5 ¼ in | P = 2r + L<br>L = (Θ/180) · π · r = (104/180) · π · 5 ¼<br>= (546/180) · π = (91/30) · π = 9.529 (to 3dp)<br>P = 2 x 5 ¼ + 9.529 = 10.5 + 9.529 = 20.029 | 20.0 in<br>to 1 decimal place |
| 6) | 72 cm, 34° | P = 2r + L<br>L = (Θ/180) · π · r = (34/180) · π · 72<br>= (2448/180) · π = (68/5) · π = 42.726 (to 3dp)<br>P = 2 x 72 + 42.726 = 144 + 42.726 = 186.726 | 186.7 cm<br>to 1 decimal place |