

Arc Length and Sector Area *fluency*

ANSWERS



Find the arc length to 1 decimal place. The radius r and the angle of the sector are given.

1 $r = 6 \text{ cm}, 60^\circ$ *6.3 cm*

2 $r = 10 \text{ cm}, 45^\circ$ *7.9 cm*

3 $r = 4 \text{ cm}, 120^\circ$ *8.4 cm*

4 $r = 9 \text{ cm}, 80^\circ$ *12.6 cm*

5 $r = 12 \text{ cm}, 150^\circ$ *31.4 cm*

6 $r = 5 \text{ cm}, 100^\circ$ *8.7 cm*



Find the area of the sector to 1 decimal place

7 $r = 6 \text{ cm}, 60^\circ$ *18.8 cm²*

8 $r = 10 \text{ cm}, 45^\circ$ *39.3 cm²*

9 $r = 4 \text{ cm}, 120^\circ$ *16.8 cm²*

10 $r = 8 \text{ cm}, 35^\circ$ *19.5 cm²*

11 $r = 12 \text{ cm}, 150^\circ$ *188.5 cm²*

12 $r = 5 \text{ cm}, 72^\circ$ *15.7 cm²*



Find the arc length (arc) or the sector area (area) in terms of π

13 arc, $r = 9 \text{ cm}, 40^\circ$ *$2\pi \text{ cm}$*

14 area, $r = 6 \text{ cm}, 90^\circ$ *$9\pi \text{ cm}^2$*

15 arc, $r = 12 \text{ cm}, 45^\circ$ *$3\pi \text{ cm}$*

16 area, $r = 10 \text{ cm}, 72^\circ$ *$20\pi \text{ cm}^2$*

17 arc, $r = 8 \text{ cm}, 135^\circ$ *$6\pi \text{ cm}$*

18 area, $r = 3 \text{ cm}, 240^\circ$ *$6\pi \text{ cm}^2$*



Find the perimeter of the sector to 1 decimal place

19 $r = 6 \text{ cm}, 60^\circ$ *18.3 cm*

20 $r = 10 \text{ cm}, 90^\circ$ *35.7 cm*

21 $r = 4 \text{ cm}, 120^\circ$ *16.4 cm*

22 $r = 7 \text{ cm}, 50^\circ$ *20.1 cm*

23 $r = 15 \text{ cm}, 24^\circ$ *36.3 cm*

24 $r = 5 \text{ cm}, 200^\circ$ *27.5 cm*



The radius and the arc length (arc) or area are given. Find the angle of the sector.

25 $r = 6 \text{ cm}, \text{arc } 2\pi \text{ cm}$ *60°*

26 $r = 9 \text{ cm}, \text{area } 27\pi \text{ cm}^2$ *120°*

27 $r = 10 \text{ cm}, \text{arc } 5\pi \text{ cm}$ *90°*

28 $r = 4 \text{ cm}, \text{area } 6\pi \text{ cm}^2$ *135°*

29 $r = 12 \text{ cm}, \text{arc } 10\pi \text{ cm}$ *150°*

30 $r = 6 \text{ cm}, \text{area } 3\pi \text{ cm}^2$ *30°*