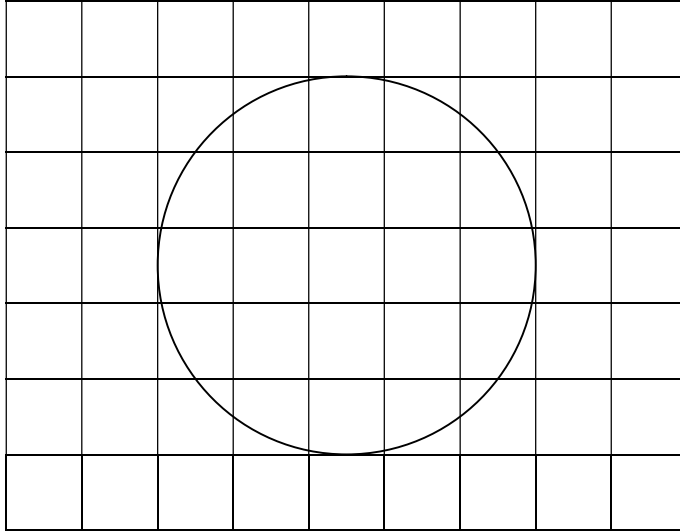


Going around

Instructions

- Work alone
- Follow the questions carefully. Read all instructions, including how to score marks.
- The grids below have different scales. Record all measurements of length as 'units' and measurements of area as 'square units' (units²).
- All solutions are to be written on this paper.
- You may use your calculator.

1 Find the diameter, radius and area of the circle drawn below. Write the answers neatly below.



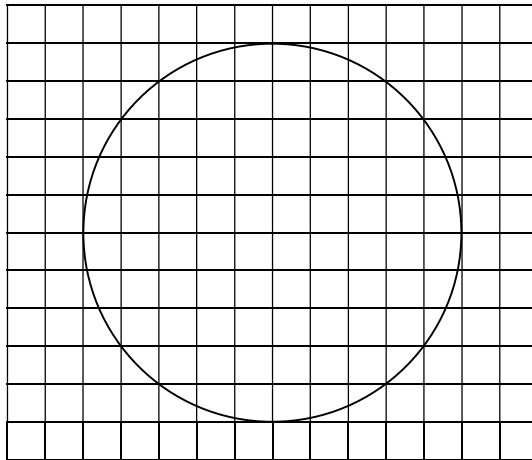
Score the maximum of **4 marks** if you find a reasonable approximation of the area, and state the diameter and radius correctly. You lose a mark for each error. If you find an approximation of the area that is not very accurate you lose **1 mark**. If you do not answer any of the questions or find a reasonable approximation of the area, **0 marks**.

Diameter = units

Radius = units

Area = units² (Approx.)

2 Find the diameter, radius and area of the circle drawn below. Write the answers neatly below.



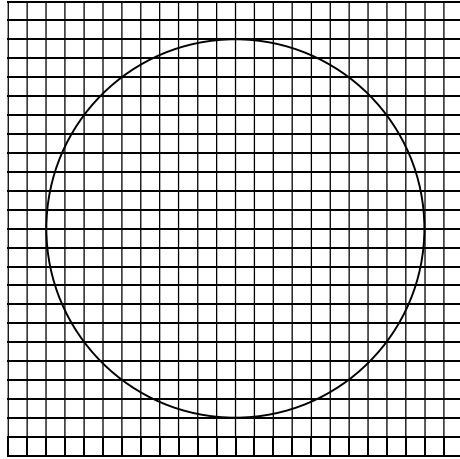
Score the maximum of **4 marks** if you find a reasonable approximation of the area, and state the diameter and radius correctly. You lose a mark for each error. If you find an approximation of the area that is not very accurate you lose **1 mark**. If you do not answer any of the questions or find a reasonable approximation of the area, **0 marks**.

Diameter = units

Radius = units

Area = units² (Approx.)

3 Find the diameter, radius and area of the circle drawn below. Write the answers neatly below.



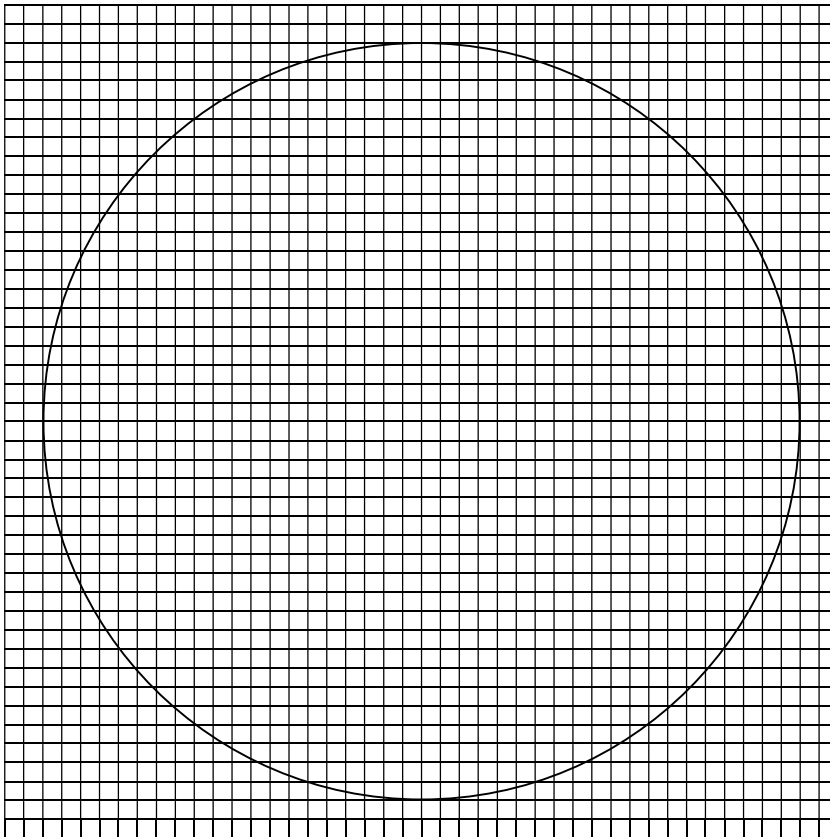
Score the maximum of **4 marks** if you find a reasonable approximation of the area, and state the diameter and radius correctly. You lose a mark for each error. If you find an approximation of the area that is not very accurate you lose **1 mark**. If you do not answer any of the questions or find a reasonable approximation of the area, **0 marks**.

Diameter = units

Radius = units

Area = units² (Approx.)

4 Find the diameter, radius and area of the circle drawn below. Write the answers neatly below.



Score the maximum of **4 marks** if you find a reasonable approximation of the area, and state the diameter and radius correctly. You lose a mark for each error. If you find an approximation of the area that is not very accurate you lose **1 mark**. If you do not answer any of the questions or find a reasonable approximation of the area, **0 marks**.

Diameter = units

Radius = units

Area = units² (Approx.)

5 Copy your answers above into the table below **and** find the value of **Area \div Radius²** (Correct to 2 decimal places).

No.	Area (A)	Radius (r)	Radius ² (r ²)	Area \div Radius ² (A \div r ²)
1				
2				
3				
4				

Score the maximum of **10 marks** if you you complete the table correctly. This includes a total of 2 marks for copying your answers for the area and radius of questions 1-4. If you make mistakes, you lose **1 mark** for each mistake. You score **0 marks** if you do not attempt the question or if it is completely wrong.

While there are no marks for the working, it will help you to do the question and maximise your marks.

You should notice that the numbers in last column of are approximately equal to each other. This number is the circle ratio ($\frac{\text{Circumference}}{\text{diameter}}$) and is called 'pi' (π). Enter the number from your table that you think is the best estimate for pi.

π (Circle ratio) =

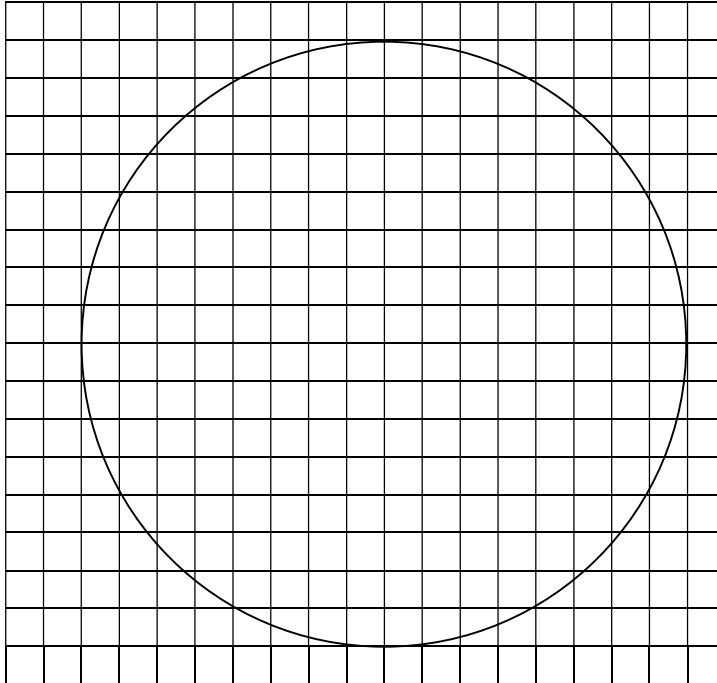
6 Complete the following table to predict the approximate area of a circle.

No.	Radius (r)	Radius ² (r ²)	Area = $\pi \times$ Radius ² (A = $\pi \times r^2$)
7	8	64	
8	15	225	

Measurement
 Score the maximum of **2 marks** if you find the area correctly. If you make one mistake, **1 marks**. If you do not answer the question or you make more than one mistakes, **0 marks**.

While there are no marks for the working, it will help you to do the question and maximise your marks.

7 Find the area of the circle with radius 8 units that is drawn below. Write the answer neatly below. Was the estimate you calculated in question 6 close to this answer?

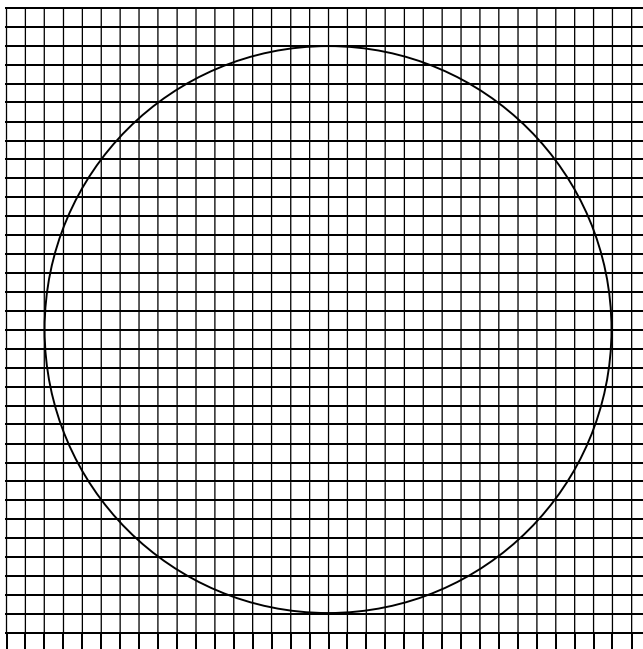


Score the maximum of **3 marks** if you find a reasonable approximation of the area, and correctly determine if your estimate was close, or not close. You lose a mark for each error. If you find an approximation of the area that is not very accurate you lose **1 mark**. If you do not answer any of the questions or find a reasonable approximation of the area, **0 marks**.

Area = units² (Approx.)

Was the estimate you calculated in question 6 close to this answer? YES/NO

8 Find the area of the circle with radius 15 units that is drawn below. Write the answer neatly below. Was the estimate you calculated in question 6 close to this answer?



Score the maximum of **3 marks** if you find a reasonable approximation of the area, and correctly determine if your estimate was close, or not close. You lose a mark for each error. If you find an approximation of the area that is not very accurate you lose **1 mark**. If you do not answer any of the questions or find a reasonable approximation of the area, **0 marks**.

Area = units² (Approx.)

Was the estimate you calculated in question 6 close to this answer? YES/NO