**Y8 – Autumn – Block 1 – Step 9 – Understand $\pi$ as a ratio**

| Question | Answer |
|---|---|
| 1 | a) 6 cm<br>b) 24 cm<br>c) 6 : 24 or 1 : 4<br>d) Yes - for a square.<br>e) It will be the same for a rhombus as that also has four sides equal in length. |
| 2 | a) 10 cm<br>b) 20 cm<br>c) 2 mm<br>d) 4 mm |
| 3 | 15 cm – None of the other measurements show either the diameter or the radius. |
| 4 | a) 3.14<br>b) 1 : 3.14<br>c) 2 : 6.28 = 1 : 3.14<br>d) 4 : 12.56 = 1 : 3.14<br>e) They are all equivalent.<br>f) For any circle, the ratio of the diameter : circumference can be written as 1 : 3.14 or, more accurately, 1 : $\pi$ |
| 5 | Multiply both by d<br>d : $\pi$d<br>The circumference of a circle is equal to Pi multiplied by the diameter.<br>C = $\pi$d |
| 6 | a) 12$\pi$ cm or 37.68 cm to 2 d.p.<br>b) 24$\pi$ cm or 75.36 cm to 2 d.p.<br>c) 8$\pi$ cm or 25.12 cm to 2 d.p.<br>d) 2$x\pi$ cm |