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| **Match-Up** | **Arc Length and Perimeter in Radians**  |

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| **1** | Find the arc length in $cm$ of a sector with radius $15 cm$ and angle $1.3 $ radians. | **2** | Find the arc length in $cm$ of a sector with radius $8 cm$ and angle $\frac{7π}{4}$ radians. | **A** | $$1.6$$ |
| **B** | $$2.2$$ |
| **3** | Find the radius in cm. | **4** | Find the angle in radians subtended by an arc of length $12 cm$ when the radius is $7.5 cm$.  | **C** | $$5π+16$$ |
| **D** | $$\frac{3π}{5}$$ |
| **5** | Find the perimeter in $cm$ of a sector with an angle of $0.85 $radians and a radius of $8 cm$. | **6** | A sector has a perimeter of $44.1 cm.$ Given that its radius is $10.5 cm$, find the angle in radians. | **E** | $$19.5$$ |
| **F** | $$0.9$$ |
| **7** | The perimeter of a sector with radius $12 cm$ is the same as the perimeter of a square with area $100 cm^{2}$. Find the angle of the sector in radians. | **8** | Find the perimeter in $cm$ of a sector with a radius of $8 cm $and an angle of $\frac{5π}{8}$ radians. | **G** | $$12$$ |
| **H** | $$14π$$ |
| **9** | The perimeter of a sector is $\left(9π+30\right) cm$. If the radius is $15 cm$, find the angle in radians. | **10** | The perimeter of a rectangle of length $8 cm$ and width $6.5 cm$ is half the perimeter of a sector with radius $20 cm$. Find the angle of the sector in radians. | **I** | $$\frac{55π}{6}+16$$ |
| **J** | $$11$$ |
| **11** | The perimeter of a sector is $35.75 cm$. If the angle at the centre of the sector is $1.25$ radians, find its radius in $cm$. | **12** | Find the perimeter of the shaded shape in $cm$. | **K** | $$\frac{4}{3}$$ |
| **L** | $$22.8$$ |

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| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
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