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| **Crack the Code** | **Calculating with Bounds** |

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| **A** | The length and width of a rectangle are measured to the nearest metre as $6 m$ and $5 m$. Find the lower bound of the area of the rectangle. | **B** | A coin is weighed as $30 g$ to the nearest $5 g$. Find the upper bound of the weight of $10$ coins. |
| **C** | The three sides of a triangle are $5 cm$, $8 cm$ and $11 cm$, all measured to the nearest cm. Find the upper bound of the perimeter of the triangle. | **D** | A dog weighs $26 kg$ to the nearest $kg$. Its puppy weighs $6.5 kg$ to the nearest $0.5 kg$. Find the lower bound of the difference between their weights. |
| **E** | A car travels $82 km$ correct to the nearest $km$, in $1.5$ hours correct to the nearest $0.1$ hour. Find the lower bound of the speed in $km/h$. | **F** | The area of a square is measured as $60 cm^{2}$, correct to $1$ significant figure. Find the upper bound of the length of the side of the square. |
| **G** | The formula $A=\frac{1}{2}ab\sin(C)$ is used to find the area of a triangle. $a=12 cm, b=9 cm$ and angle $C$ is $72°$, all correct to 2 significant figures. Find the upper bound of the area $A$. | **H** | The density of a wooden block is measured as $1.8 g/cm^{3}$ to the nearest $0.1 g/cm^{3} $and its volume as $40 cm^{3}$ to the nearest $5 cm^{3}. $Find the lower bound of the mass of the wooden block in $g$. |
| **I** | The lengths of the right-angled triangle shown are measured correct to $2$ significant figures. Find the lower bound of the size of angle $x$. | **J** | The cylinder shown has a volume of $400 cm^{3}$, correct to the nearest $10 cm^{3}$. Its height is $8 cm$ correct to $1$ significant figure. Find the upper bound of the radius of the cylinder. |
| To get the three-digit code, add all your answers together and round to the nearest integer. |