| Name of shape and dimensions | Picture of shape | Area | Change in dimension | New area | \% of change in areas |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Rectangle } \\ & \mathrm{l}=10 \mathrm{~cm} \\ & \mathrm{w}=6 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper |  | $1+4 \mathrm{~cm}$ <br> Make this change to the picture on the graph paper |  |  |
| $\begin{aligned} & \text { Parallelogram } \\ & \mathrm{b}=13 \mathrm{~cm} \\ & \mathrm{~h}=20 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper |  | h decreased by 5 cm. <br> Make this change to the picture on the graph paper |  |  |
| $\begin{aligned} & \text { Square } \\ & \mathrm{s}=8 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper |  | s is doubled <br> Make this change to the picture on the graph paper |  |  |
| $\begin{aligned} & \text { Trapezoid } \\ & \mathrm{b} 1=5 \mathrm{~cm} \\ & \mathrm{~b} 2=10 \mathrm{~cm} \\ & \mathrm{~h}=12 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper |  | b1 and b2 both increase by 2 <br> Make this change to the picture on the graph paper |  |  |
| $\begin{aligned} & \text { Triangle } \\ & \mathrm{b}=9 \mathrm{~cm} \\ & \mathrm{~h}=12 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper |  | b increases by 2 and $h$ doubles <br> Make this change to the picture on the graph paper |  |  |
| Circle $\mathrm{d}=12 \mathrm{~cm}$ <br> (Leave your answers in terms of pi.) | Draw <br> these on graph paper |  | $r+3$ <br> Make this change to the picture on the graph paper |  |  |

## Answer key

| Name of shape and dimensions | Picture of shape | Area | Change in dimension | New area | $\%$ of change in areas |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { Rectangle } \\ & \mathrm{l}=10 \mathrm{~cm} \\ & \mathrm{w}=6 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper | $60 \mathrm{~cm}^{2}$ | $1+4 \mathrm{~cm}$ <br> Make this change to the picture on the graph paper | $84 \mathrm{~cm}^{2}$ | 40\% increase |
| $\begin{aligned} & \text { Parallelogram } \\ & \mathrm{b}=13 \mathrm{~cm} \\ & \mathrm{~h}=20 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper | $260 \mathrm{~cm}^{2}$ | $h$ decreased by 5 cm. <br> Make this change to the picture on the graph paper | $195 \mathrm{~cm}^{2}$ | 25\% decrease |
| Square $\mathrm{s}=8 \mathrm{~cm}$ | Draw these on graph paper | $64 \mathrm{~cm}^{2}$ | s is doubled <br> Make this change to the picture on the graph paper | $256 \mathrm{~cm}^{2}$ | 213\% increase |
| Trapezoid $\mathrm{b} 1=5 \mathrm{~cm}$ $\mathrm{b} 2=10 \mathrm{~cm}$ $\mathrm{h}=12 \mathrm{~cm}$ | Draw these on graph paper | $90 \mathrm{~cm}^{2}$ | b1 and b2 both increase by 2 <br> Make this change to the picture on the graph paper | $114 \mathrm{~cm}^{2}$ | 27\% increase |
| $\begin{aligned} & \text { Triangle } \\ & \mathrm{b}=9 \mathrm{~cm} \\ & \mathrm{~h}=12 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper | $54 \mathrm{~cm}^{2}$ | b increases by 2 and $h$ doubles <br> Make this change to the picture on the graph paper | $122 \mathrm{~cm}^{2}$ | 126\% increase |
| $\begin{aligned} & \text { Circle } \\ & \mathrm{d}=12 \mathrm{~cm} \end{aligned}$ | Draw these on graph paper | $36 \Pi \mathrm{~cm}^{2}$ | $r+3$ <br> Make this change to the picture on the graph paper | $81 \Pi \mathrm{~cm}^{2}$ | 125\% increase |

## Rectangle answer key



## Parallelogram answer key



## Square answer key



## Trapezoid answer key



Triangle answer key


## Circle answer key



