| a) $a: b=4: 5$ and $b: c=2: 3$ Write $a: c$ in its simplest form. |  | b) $a: b=8: 3$ and $b: c=4: 5$ <br> Write $a: c$ in its simplest form. |  |
| :---: | :---: | :---: | :---: |
| What can we say about the ratios $a: b$ and $b: c$ ? | They share a common variable, $b$. This is the same value. | What can we say about the ratios $a: b$ and $b: c$ ? | They share a common variable, $b$. This is the same value. |
| Can we re-write the ratios to represent this? | $\begin{gathered} a: b=4: 5=8: 10 \\ b: c=2: 3=10: 15 \end{gathered}$ | Can we re-write the ratios to represent this? | $\begin{aligned} & a: b=8: 3=32: 12 \\ & b: c=4: 5=12: 15 \end{aligned}$ |
| Can we combine these ratios? | $a: b: c=8: 10: 15$ | Can we combine these ratios? |  |
| What is the ratio $a: c$ in its simplest form? | 8:15 | What is the ratio $a: c$ in its simplest form? |  |
| c) $a: b=2: 5$ and $b: c=3: 8$ <br> Write $a: c$ in its simplest form. |  | d) $a: b=3: 4$ and $b: c=5: 2$ Write $a: c$ in its simplest form. |  |
| What can we say about the ratios $a: b$ and $b: c$ ? | They share a common variable, $b$. This is the same value. |  |  |
| Can we re-write the ratios to represent this? | $\begin{aligned} & a: b=2: 5=\ldots: \ldots \\ & b: c=3: 8=\ldots: \ldots \end{aligned}$ |  |  |
| Can we combine these ratios? |  |  |  |
| What is the ratio $a: c$ in its simplest form? |  |  |  |

