**Multiplying and Dividing Surds**

**Decode the Maths Joke**

Calculate a value for each of the letters of the alphabet.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **A** | $$\sqrt{7}×\sqrt{5}$$ |  |  | **N** | $$\sqrt{5}×\sqrt{2}×\sqrt{3}$$ |  |
| **B** | $$\sqrt{2}×\sqrt{3}$$ |  |  | **O** | $$\sqrt{10}÷\sqrt{2}$$ |  |
| **C** | $$\sqrt{15}÷\sqrt{5}$$ |  |  | **P** | $$(\sqrt{9})^{2}$$ |  |
| **D** | $$\sqrt{6}÷\sqrt{3}$$ |  |  | **Q** | $$\sqrt{6}×\sqrt{2}÷\sqrt{3}$$ |  |
| **E** | $$\sqrt{14}÷\sqrt{2}$$ |  |  | **R** | $$\sqrt{2}×\sqrt{7}$$ |  |
| **F** | $$\sqrt{2}×\sqrt{8}$$ |  |  | **S** | $$(\sqrt{4})^{2}×(\sqrt{5})^{2}$$ |  |
| **G** | $$\sqrt{65}÷\sqrt{5}$$ |  |  | **T** | $$\sqrt{6}×\sqrt{11}÷\sqrt{2}$$ |  |
| **H** | $$\sqrt{5}×\sqrt{11}$$ |  |  | **U** | $$\sqrt{2}×\sqrt{5}×\sqrt{10}$$ |  |
| **I** | $$\sqrt{2}×\sqrt{6}×\sqrt{3}$$ |  |  | **V** | $$\sqrt{5}×\sqrt{6}÷\sqrt{3}$$ |  |
| **J** | $$\sqrt{10}÷\sqrt{10}$$ |  |  | **W** | $$\sqrt{3}×\sqrt{7}$$ |  |
| **K** | $$\sqrt{5}×\sqrt{5}$$ |  |  | **X** | $$(\sqrt{4})^{3}$$ |  |
| **L** | $$\sqrt{66}÷\sqrt{6}$$ |  |  | **Y** | $$\sqrt{2}×\sqrt{3}×\sqrt{7}$$ |  |
| **M** | $$\sqrt{21}×\sqrt{3}÷\sqrt{7}$$ |  |  | **Z** | $$(\sqrt{3})^{2}×\sqrt{5}÷\sqrt{3}$$ |  |

Now decode the joke….

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| $$\sqrt{21}$$ | $$\sqrt{55}$$ | $$\sqrt{42}$$ |  | $$\sqrt{35}$$ | $$\sqrt{14}$$ | $$\sqrt{7}$$ |  | $$20$$ | $$2$$ | $$10$$ | $$\sqrt{35}$$ | $$\sqrt{14}$$ | $$\sqrt{7}$$ |  |
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| $$\sqrt{14}$$ | $$\sqrt{5}$$ | $$\sqrt{5}$$ | $$\sqrt{33}$$ | $$20$$ |  | $$\sqrt{30}$$ | $$\sqrt{7}$$ | $$\sqrt{10}$$ | $$\sqrt{7}$$ | $$\sqrt{14}$$ |  | $$20$$ | $$\sqrt{35}$$ | $$\sqrt{2}$$ | ? |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| $$\sqrt{6}$$ | $$\sqrt{7}$$ | $$\sqrt{3}$$ | $$\sqrt{35}$$ | $$10$$ | $$20$$ | $$\sqrt{7}$$ |  | $$\sqrt{33}$$ | $$\sqrt{55}$$ | $$\sqrt{7}$$ | $$\sqrt{42}$$ | ‘ | $$\sqrt{14}$$ | $$\sqrt{7}$$ |
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| $$\sqrt{35}$$ | $$\sqrt{11}$$ | $$\sqrt{21}$$ | $$\sqrt{35}$$ | $$\sqrt{42}$$ | $$20$$ |  | $$9$$ | $$\sqrt{5}$$ | $$20$$ | $$6$$ | $$\sqrt{33}$$ | $$6$$ | $$\sqrt{10}$$ | $$\sqrt{7}$$ | ! |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |