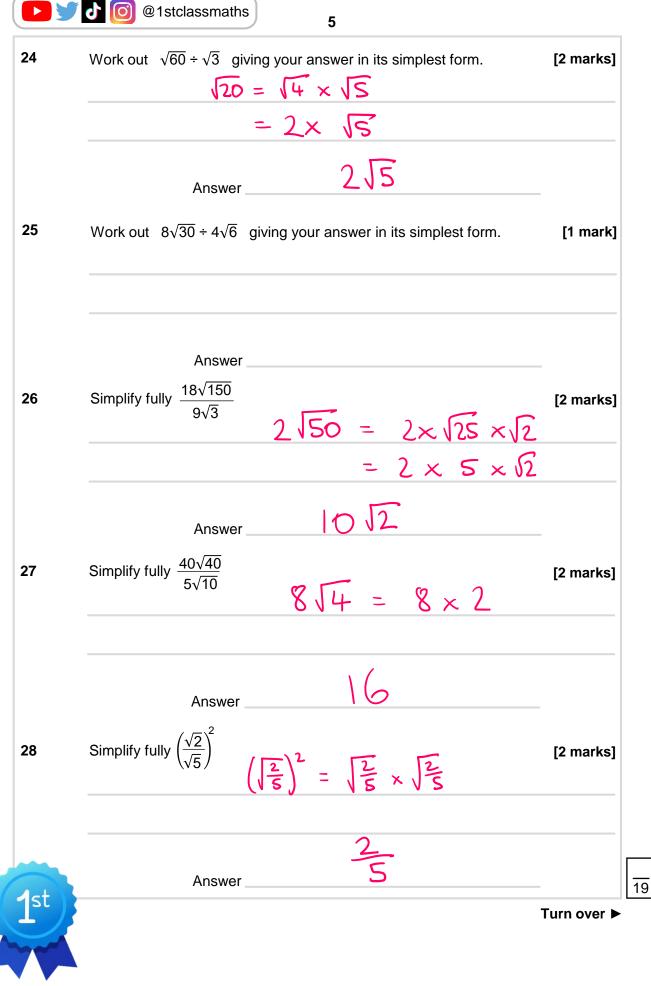
|                 |  | g with Surds                            |          |
|-----------------|--|---|----------|
| SCAN M          | REVISE THIS<br>TOPIC                       |   |          |
| 1               | Express $\sqrt{12}$ in its simplest form.  | $\sqrt{12} = \sqrt{4} \times \sqrt{3}$  | [1 mark] |
|                 | Answer                                     | 25                                      |          |
| 2               | Express $\sqrt{50}$ in its simplest form.  | $\sqrt{50} = \sqrt{25} \times \sqrt{2}$ | [1 mark] |
|                 | Answer                                     | 512                                     |          |
| 3               | Express $\sqrt{500}$ in its simplest form. | √500 = √100 × √5                        | [1 mark] |
|                 | Answer                                     | 1015                                    |          |
| 4               | Express $\sqrt{27}$ in its simplest form.  | $\sqrt{27} = \sqrt{9} \times \sqrt{3}$  | [1 mark] |
|                 | Answer                                     | 313                                     |          |
| 5               | Express $\sqrt{98}$ in its simplest form.  | 198 = 149 x 12                          | [1 mark] |
|                 | Answer                                     | 752                                     |          |
| 6               | Express $\sqrt{48}$ in its simplest form.  | $\sqrt{48} = \sqrt{16} \times \sqrt{3}$ | [1 mark] |
| 1 <sup>st</sup> | Answer                                     | 413                                     |          |

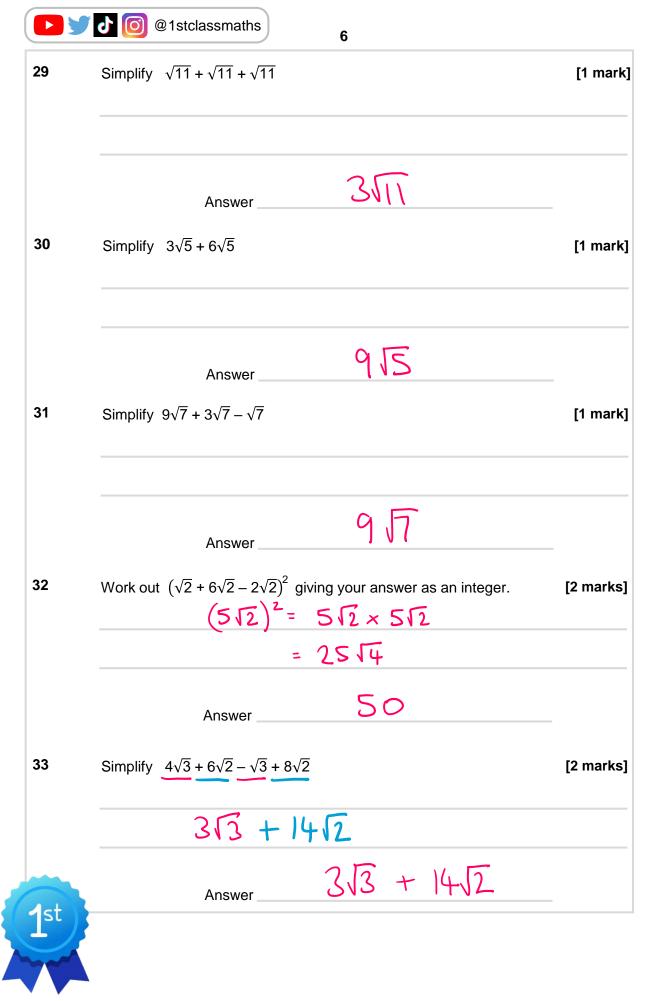
|                 | 0 @1stclassmaths                           | 2                              |          |
|-----------------|--|--------------------------------|----------|
| 7               | Express $5\sqrt{8}$ in its simplest form.  | 5 × 14 × 12<br>5 × 2 × 12      | [1 mark] |
|                 | Answer                                     | 1012                           |          |
| 8               | Express $4\sqrt{18}$ in its simplest form. | 4×19×12<br>=4×3×12             | [1 mark] |
|                 | Answer                                     | 1212                           |          |
| 9               | Express $2\sqrt{200}$ in its simplest form | 2×100×12<br>= 2×10×12          | [1 mark] |
|                 | Answer                                     | 2052                           |          |
| 10              | Express $9\sqrt{20}$ in its simplest form. | 9×√4 ×√5<br>= 9 × 2 ×√5        | [1 mark] |
|                 | Answer                                     | 185                            |          |
| 11              | Express $7\sqrt{640}$ in its simplest form | 7 x 164 x 110<br>= 7 x 8 × 110 | [1 mark] |
|                 | Answer                                     | 56110                          |          |
| 12              | Express $5\sqrt{80}$ in its simplest form. | 5×116×15<br>5×4×15             | [1 mark] |
|                 | Answer                                     | 2015                           |          |
| 13              | Express $3\sqrt{72}$ in its simplest form. | 3 x 136 x 12<br>3 x 6 x 12     | [1 mark] |
|                 | Answer                                     | 18/2                           |          |
| 1 <sup>st</sup> | Answer                                     | (8)2                           |          |

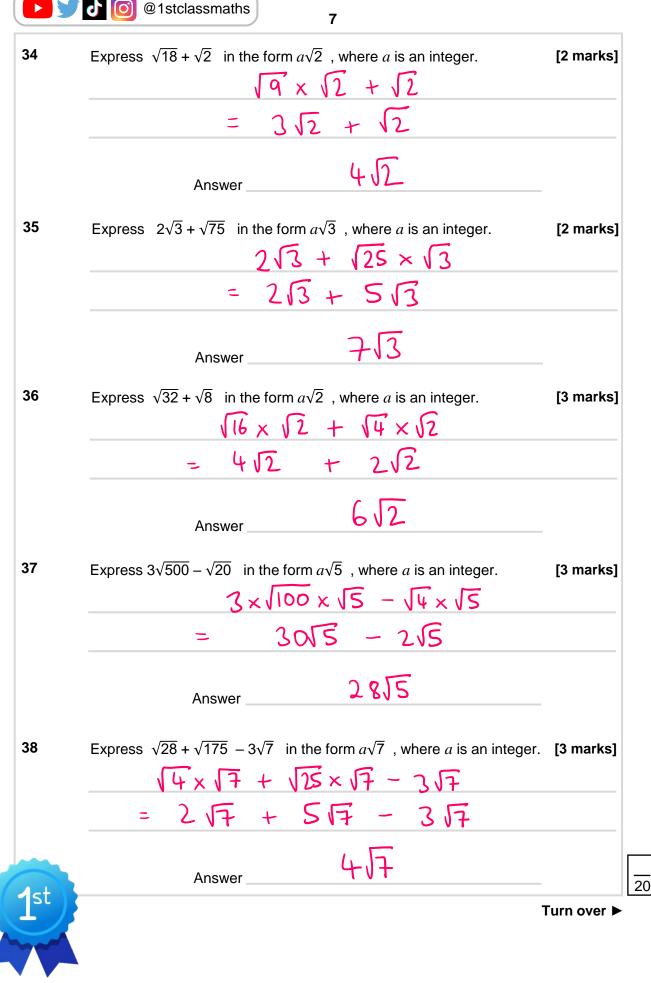
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|    | Work out $\sqrt{6} \times \sqrt{3}$ giving your answer in its simplest form.<br>$\sqrt{18} = \sqrt{9} \times \sqrt{2}$                              | [2 marks]   |
|----|---|-------------|
|    | $= 3 \times \sqrt{2}$   |             |
|    | Answer 3/2  |             |
| ;  | Work out $\sqrt{10} \times \sqrt{6}$ giving your answer in its simplest form.<br>$\sqrt{60} = \sqrt{4} \times \sqrt{15}$                            | [2 marks]   |
|    | $= 2 \times \sqrt{15}$  |             |
|    | Answer 2/15   |             |
| i  | Work out $2\sqrt{5} \times 5\sqrt{8}$ giving your answer in its simplest form.<br>$ 0\sqrt{40} =  0 \times \sqrt{4} \times \sqrt{4}$                |             |
|    | = 10 x 2 x  | 10          |
|    | Answer 20 JIO   |             |
|    | Work out $4\sqrt{2} \times 2\sqrt{12}$ giving your answer in its simplest form.<br>$\sqrt[8]{\sqrt{24}} = \sqrt[8]{\times\sqrt{4}} \times \sqrt{6}$ | [2 marks]   |
|    | = 8×2×16  |             |
|    | Answer 1676   |             |
|    | Work out $2\sqrt{20} \times 3\sqrt{5}$ giving your answer as an integer.<br>$6\sqrt{100} = 6 \times 10$   | [2 marks]   |
|    | Answer 60   |             |
| st |   | Turn over ▶ |

|     | Image: Orginal state    Image: Orginal state |              |
|-----|--|--------------|
| 19  | Work out $(\sqrt{6})^2$ giving your answer as an integer.<br>$\sqrt{6} \times \sqrt{6} = \sqrt{36}$  | [2 marks]    |
|     |  |              |
|     | Answer6  |              |
| 20  | Work out $(\sqrt{5})^4$ giving your answer as an integer.<br>$\sqrt{5} \times \sqrt{5} \times \sqrt{5} \times \sqrt{5}$  | [2 marks]    |
|     | = 5 × 5  |              |
|     | Answer 25  | 1            |
| 21  | Work out $(2\sqrt{3})^3$ giving your answer in its simplest form.<br>$2\sqrt{3} \times 2\sqrt{3} \times 2\sqrt{3} = 8\sqrt{27}$  | [2 marks]    |
|     | = 8×19<br>= 8×3  | × (3<br>× (3 |
|     | Answer 245   |              |
| 22  | Work out $(\sqrt{2} \times \sqrt{3} \times \sqrt{5})^2$ giving your answer as an integer.<br>$(\sqrt{30})^2 = \sqrt{30} \times \sqrt{30}$  | [2 marks]    |
|     | Answer 30  |              |
| 23  | Express $(\sqrt{3})^7$ in the form $a\sqrt{3}$ , where <i>a</i> is an integer.<br>$\sqrt{3} \times \sqrt{3} \times \sqrt{3}$   | [2 marks]    |
|     | $= 3 \times 3 \times 3 \times \sqrt{3}$  |              |
| 1st | Answer 27,5  |              |
| F   |  |              |
|     |  |              |







▶ 🔰 🚺 👩 @1stclassmaths 7 39 Ross is doing a surds question. Ross writes:  $\sqrt{300} + \sqrt{12}$  $\sqrt{300} + \sqrt{12} = \sqrt{312}$ = 100 × 13 + 14 × 13  $=\sqrt{4} \times \sqrt{78}$  $= 10\sqrt{3} + 2\sqrt{3}$  $= 2 \times \sqrt{78}$  $= 2\sqrt{78}$ = 123 [1 mark] Explain the mistake that Ross has made You cannot add 500 and JIZ as they do not have the same number inside the root. Ross should simplify them first. Work out  $\frac{\sqrt{30} \times 5\sqrt{6}}{\sqrt{125} - \sqrt{20}}$ giving your answer as an integer. 40 [4 marks] 5 180 J25 x 15 - 14 x 15 5 x 136 × 15 515 - 215  $5 \times 6 \times \sqrt{5}$ -315 =  $\bigcirc$ Answer **1**st

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