1 Express $\sqrt{12}$ in its simplest form.

....

(Total for Question 1 is 1 mark)

2 Express $\sqrt{50}$ in its simplest form.

....

(Total for Question 2 is 1 mark)

3 Express $\sqrt{500}$ in its simplest form.

....

(Total for Question 3 is 1 mark)

4 Express $\sqrt{27}$ in its simplest form.

....

(Total for Question 4 is 1 mark)

5 Express $\sqrt{98}$ in its simplest form.

....

(Total for Question 5 is 1 mark)

6 Express $\sqrt{48}$ in its simplest form.

....

(Total for Question 6 is 1 mark)

1

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7 Express $5\sqrt{8}$ in its simplest form.

....

(Total for Question 7 is 1 mark)

8 Express $4\sqrt{18}$ in its simplest form.

....

(Total for Question 8 is 1 mark)

9 Express $2\sqrt{200}$ in its simplest form.

....

(Total for Question 9 is 1 mark)

10 Express $9\sqrt{20}$ in its simplest form.

....

(Total for Question 10 is 1 mark)

11 Express $7\sqrt{640}$ in its simplest form.

....

(Total for Question 11 is 1 mark)

12 Express $5\sqrt{80}$ in its simplest form.

....

(Total for Question 12 is 1 mark)

13 Express $3\sqrt{72}$ in its simplest form.

....

(Total for Question 13 is 1 mark)

14 Work out $\sqrt{6} \times \sqrt{3}$ giving your answer in its simplest form.

....

(Total for Question 14 is 2 marks)

15 Work out $\sqrt{10} \times \sqrt{6}$ giving your answer in its simplest form.

....

(Total for Question 15 is 2 marks)

16 Work out $2\sqrt{5} \times 5\sqrt{8}$ giving your answer in its simplest form.

....

(Total for Question 16 is 2 marks)

17 Work out $4\sqrt{2} \times 2\sqrt{12}$ giving your answer in its simplest form.

....

(Total for Question 17 is 2 marks)

18 Work out $2\sqrt{20} \times 3\sqrt{5}$ giving your answer as an integer.

....

(Total for Question 18 is 2 marks)

Solutions

19 Work out $\left(\sqrt{6}\right)^2$ giving your answer as an integer.

....

(Total for Question 19 is 2 marks)

20 Work out $\left(\sqrt{5}\right)^4$ giving your answer as an integer.

....

(Total for Question 20 is 2 marks)

21 Work out $\left(2\sqrt{3}\right)^3$ giving your answer in its simplest form.

....

(Total for Question 21 is 2 marks)

22 Work out $\left(\sqrt{2} \times \sqrt{3} \times \sqrt{5}\right)^2$ giving your answer as an integer.

....

(Total for Question 22 is 2 marks)

23 Express $\left(\sqrt{3}\right)^7$ in the form $a\sqrt{3}$, where a is an integer.

....

(Total for Question 23 is 2 marks)

24 Work out $\sqrt{60} \div \sqrt{3}$ giving your answer in its simplest form.

....

(Total for Question 24 is 2 marks)

25 Work out $8\sqrt{30} \div 4\sqrt{6}$ giving your answer in its simplest form.

....

(Total for Question 25 is 1 mark)

26 Simplify fully $\dfrac{18\sqrt{150}}{9\sqrt{3}}$

....

(Total for Question 26 is 2 marks)

27 Simplify fully $\dfrac{40\sqrt{40}}{5\sqrt{10}}$

....

(Total for Question 27 is 2 marks)

28 Simplify fully $\left(\dfrac{\sqrt{2}}{\sqrt{5}}\right)^2$

....

(Total for Question 28 is 2 marks)

29 Simplify $\sqrt{11} + \sqrt{11} + \sqrt{11}$

(Total for Question 29 is 1 mark)

30 Simplify $3\sqrt{5} + 6\sqrt{5}$

(Total for Question 30 is 1 mark)

31 Simplify $9\sqrt{7} + 3\sqrt{7} - \sqrt{7}$

(Total for Question 31 is 1 mark)

32 Work out $\left(\sqrt{2} + 6\sqrt{2} - 2\sqrt{2}\right)^2$ giving your answer as an integer.

(Total for Question 32 is 2 marks)

33 Simplify $4\sqrt{3} + 6\sqrt{2} - \sqrt{3} + 8\sqrt{2}$

(Total for Question 33 is 2 marks)

6

34 Express $\sqrt{18} + \sqrt{2}$ in the form $a\sqrt{2}$, where a is an integer.

(Total for Question 34 is 2 marks)

35 Express $2\sqrt{3} + \sqrt{75}$ in the form $a\sqrt{3}$, where a is an integer.

(Total for Question 35 is 2 marks)

36 Express $\sqrt{32} + \sqrt{8}$ in the form $a\sqrt{2}$, where a is an integer.

(Total for Question 36 is 3 marks)

37 Express $3\sqrt{500} - \sqrt{20}$ in the form $a\sqrt{5}$, where a is an integer.

(Total for Question 37 is 3 marks)

38 Express $\sqrt{28} + \sqrt{175} - 3\sqrt{7}$ in the form $a\sqrt{7}$, where a is an integer.

(Total for Question 38 is 3 marks)

39 Ross is doing a surds question.
Ross writes:

$$\sqrt{300} + \sqrt{12} = \sqrt{312}$$
$$= \sqrt{4} \times \sqrt{78}$$
$$= 2 \times \sqrt{78}$$
$$= 2\sqrt{78}$$

Explain the mistake that Ross has made

....

....

....

(Total for Question 39 is 1 mark)

40 Work out $\dfrac{\sqrt{30} \times 5\sqrt{6}}{\sqrt{125} - \sqrt{20}}$ giving your answer as an integer.

....

(Total for Question 40 is 4 marks)

8