

HW — LESSON (14)

T.P.C.

Simplify:

1) $\sqrt{5} \times \sqrt{3}$

2) $\sqrt{12} \times \sqrt{3}$

3) $\sqrt{6} \times \sqrt{6}$

4) $(\sqrt{7})^2$

5) $\sqrt{2} \times \sqrt{2} \times \sqrt{2}$

6) $2\sqrt{3} \times 5\sqrt{2}$

7) $2\sqrt{3} \times 5\sqrt{3}$

8) $8\sqrt{5} \times 2\sqrt{2}$

9) $(\sqrt{3})^3$

10) $2\sqrt{3} \times 3\sqrt{3} \times 4\sqrt{3}$

Express in the form $a\sqrt{b}$:

11) $\sqrt{18} = \sqrt{9 \times 2} = \sqrt{9} \times \sqrt{2} =$

12) $\sqrt{40} =$

13) $\sqrt{300} =$

14) $\sqrt{27} =$

15) $\sqrt{28} =$

Express in the form \sqrt{x}

16) $10\sqrt{2} = \sqrt{10^2 \times 2} =$

17) $5\sqrt{2} =$

18) $3\sqrt{5} =$

19) $3\sqrt{10} =$

20) $4\sqrt{x} =$

Simplify:

21) $\sqrt{7} + \sqrt{7} + \sqrt{7} =$

22) $4\sqrt{5} + 3\sqrt{5} =$

23) $8\sqrt{2} - \sqrt{2} =$

24) $\sqrt{3} + 4\sqrt{3} =$

25) $8\sqrt{2} - 3\sqrt{2} + \sqrt{2} =$

HW - Lesson 15

SIMPLIFY:

1) $\sqrt{200} + \sqrt{2}$

4) $\sqrt{27} - \sqrt{12}$

2) $\sqrt{75} + \sqrt{3}$

5) $\sqrt{50} - \sqrt{18} + \sqrt{8}$

3) $\sqrt{20} + \sqrt{45}$

Expand & Simplify:

6) $\sqrt{2} (\sqrt{3} + \sqrt{5})$

9) $3\sqrt{5} (2\sqrt{2} - \sqrt{5})$

7) $\sqrt{2} (\sqrt{2} + 3)$

10) $5\sqrt{3} (2\sqrt{3} - 2\sqrt{2})$

8) $\sqrt{3} (\sqrt{12} - 5)$

11) $(\sqrt{3} + 4)(\sqrt{3} + 2)$

12) $(\sqrt{5} + 6)(\sqrt{5} + 1)$

13) $(\sqrt{3} + 5)(\sqrt{3} - 2)$

14) $(\sqrt{7} - 2)(\sqrt{7} + 2)$

15) $(\sqrt{3} + \sqrt{2})(2\sqrt{3} - \sqrt{2})$

Rationalise the denominators of:-

16) $\frac{1}{\sqrt{5}}$

18) $\frac{5}{\sqrt{5}}$

20) $\frac{1}{\sqrt{5} + 1}$

17) $\frac{3}{\sqrt{2}}$

19) $\frac{3}{2\sqrt{2}}$

HW — LESSON (14)

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Simplify:

1) $\sqrt{5} \times \sqrt{3} = \sqrt{15} \checkmark$

2) $\sqrt{12} \times \sqrt{3} = \frac{\sqrt{36}}{6} = 6 \checkmark$

3) $\sqrt{6} \times \sqrt{6} = 6 \checkmark$

4) $(\sqrt{7})^2 = 7 \checkmark$

5) $\underbrace{\sqrt{2} \times \sqrt{2}}_2 \times \sqrt{2} = \sqrt{8} = 2\sqrt{2}$

6) $2\sqrt{3} \times 5\sqrt{2} = 10\sqrt{6} \checkmark$

7) $2\sqrt{3} \times 5\sqrt{3} = \frac{10 \times 3}{30} = 30 \checkmark$

8) $8\sqrt{5} \times 2\sqrt{2} = 16\sqrt{10} \checkmark$

9) $(\sqrt{3})^3 = \frac{\sqrt{27}}{3\sqrt{3}} \checkmark$

10) $2\sqrt{3} \times 3\sqrt{3} \times 4\sqrt{3} = \frac{24\sqrt{27}}{72\sqrt{3}} \checkmark$

Express in the form $a\sqrt{b}$:

11) $\sqrt{18} = \sqrt{9 \times 2} = \sqrt{9} \times \sqrt{2} = 3\sqrt{2} \checkmark$

12) $\sqrt{40} = 2\sqrt{10} \checkmark$

13) $\sqrt{300} = 10\sqrt{3} \checkmark$

14) $\sqrt{27} = 3\sqrt{3} \checkmark$

15) $\sqrt{28} = 2\sqrt{7} \checkmark$

Express in the form \sqrt{x}

16) $10\sqrt{2} = \sqrt{10^2 \times 2} = \sqrt{200} \checkmark$

17) $5\sqrt{2} = \sqrt{5^2 \times 2} = \sqrt{50} \checkmark$

18) $3\sqrt{5} = \sqrt{3^2 \times 5} = \sqrt{45} \checkmark$

19) $3\sqrt{10} = \sqrt{3^2 \times 10} = \sqrt{90} \checkmark$

20) $4\sqrt{x} = \sqrt{4^2 \times x} = \sqrt{16x} \checkmark$

Simplify:

21) $\sqrt{7} + \sqrt{7} + \sqrt{7} = 3\sqrt{7} \checkmark$

22) $4\sqrt{5} + 3\sqrt{5} = 7\sqrt{5} \checkmark$

23) $8\sqrt{2} - \sqrt{2} = 7\sqrt{2} \checkmark$

24) $\sqrt{3} + 4\sqrt{3} = 5\sqrt{3} \checkmark$

25) $8\sqrt{2} - 3\sqrt{2} + \sqrt{2} = 6\sqrt{2} \checkmark$

HW - Lesson 15

Excellent effort!

SIMPLIFY:

$$1) \sqrt{200} + \sqrt{2} = 10\sqrt{2} + \sqrt{2} \\ = 11\sqrt{2} \checkmark$$

$$4) \sqrt{27} - \sqrt{12} = 3\sqrt{3} - 2\sqrt{3} \\ = \sqrt{3} \checkmark$$

$$2) \sqrt{75} + \sqrt{3} = 5\sqrt{3} + \sqrt{3} \\ = 6\sqrt{3} \checkmark$$

$$5) \sqrt{50} - \sqrt{18} + \sqrt{8} \\ = 5\sqrt{2} - 3\sqrt{2} + 2\sqrt{2} \\ = 4\sqrt{2} \checkmark$$

$$3) \sqrt{20} + \sqrt{45} = 2\sqrt{5} + 3\sqrt{5} \\ = 5\sqrt{5} \checkmark$$

Expand & Simplify:

$$6) \sqrt{2} (\sqrt{3} + \sqrt{5}) = \sqrt{6} + \sqrt{10} \checkmark$$

$$9) 3\sqrt{5} (2\sqrt{2} - \sqrt{5}) = 6\sqrt{10} - 15 \checkmark$$

$$7) \sqrt{2} (\sqrt{2} + 3) = 2 + 3\sqrt{2} \checkmark$$

$$10) 5\sqrt{3} (2\sqrt{3} - 2\sqrt{2})$$

$$8) \sqrt{3} (\sqrt{12} - 5) \\ = \sqrt{36} - 5\sqrt{3} \\ = 6 - 5\sqrt{3} \checkmark$$

$$30 - 10\sqrt{6} \checkmark$$

$$11) (\sqrt{3} + 4)(\sqrt{3} + 2) = 3 + 2\sqrt{3} + 4\sqrt{3} + 8 \\ = 11 + 6\sqrt{3} \checkmark$$

$$12) (\sqrt{5} + 6)(\sqrt{5} + 1) = 5 + \sqrt{5} + 6\sqrt{5} + 6 \\ = 11 + 7\sqrt{5} \checkmark$$

$$13) (\sqrt{3} + 5)(\sqrt{3} - 2) = 3 - 2\sqrt{3} + 5\sqrt{3} - 10 \\ = -7 + 3\sqrt{3} \checkmark$$

$$14) (\sqrt{7} - 2)(\sqrt{7} + 2) = 7 + 2\sqrt{7} - 2\sqrt{7} - 4 \\ = 3 \checkmark$$

$$15) (\sqrt{3} + \sqrt{2})(2\sqrt{3} - \sqrt{2}) = 6 - \sqrt{6} + 2\sqrt{6} - 2 \\ = 4 + \sqrt{6} \checkmark$$

Rationalise the denominators of:-

$$16) \frac{1}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{\sqrt{5}}{5} \checkmark$$

$$18) \frac{5}{\sqrt{5}} \times \frac{\sqrt{5}}{\sqrt{5}} = \frac{5\sqrt{5}}{5} = \sqrt{5} \checkmark$$

$$20) \frac{1}{\sqrt{5}+1} \times \frac{\sqrt{5}-1}{\sqrt{5}-1} \\ = \frac{\sqrt{5}-1}{5-1} \checkmark$$

$$17) \frac{3}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{3\sqrt{2}}{2} \checkmark$$

$$19) \frac{3}{2\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} = \frac{3\sqrt{2}}{4} \checkmark$$

$$= \frac{5-1}{4} \checkmark$$