Square Roots

Helper	#'s
1	1
2	4
3	9
4	16
5	25
6	36
7	49
8	64
9	81
10	100

Ex) $\sqrt{36} = 6$

Ex) $\sqrt{64} = 8$

Ex) $\sqrt{20}$

$\sqrt{4} \cdot \sqrt{5}$

$\boxed{2\sqrt{5}}$

Ex) $\sqrt{50}$

$\sqrt{25} \cdot \sqrt{2}$

$5\sqrt{2}$

Ex) $3\sqrt{90}$

$\downarrow$ $\sqrt{9} \cdot \sqrt{10}$

$3 \cdot 3 \cdot \sqrt{10}$

$9\sqrt{10}$

Ex) $-4\sqrt{200}$

$\downarrow$ $\sqrt{100}\ \sqrt{2}$

$-4 \cdot 10\sqrt{2}$

$-40\sqrt{2}$

p. 24

2, 3, 18, 21, 22, 29

Adding & Subtracting Square Roots

- Insides Must Match
- Combine Like Terms (Inside stays the same)

Ex) $2\sqrt{3} + 3\sqrt{3} = 5\sqrt{3}$

Ex) $8\sqrt{2} - 4\sqrt{2} = 4\sqrt{2}$

Ex) $\sqrt{80} - 5\sqrt{5} =$

$\sqrt{16} \cdot \sqrt{5}$ $\downarrow$

$4\sqrt{5} - 5\sqrt{5} = -1\sqrt{5}$

Ex) $4\sqrt{10} + 3\sqrt{90}$

$\downarrow$ $\qquad$ $\downarrow \sqrt{9} \cdot \sqrt{10}$

$\qquad\qquad 3 \cdot 3 \quad \sqrt{10}$

$4\sqrt{10} + 9\sqrt{10} = \boxed{13\sqrt{10}}$

p. 24
14-17, 34-37