$\sqrt{54}$

$= \sqrt{9}\sqrt{6}$

$= 3\sqrt{6}$

① Find a square that divides the number.

② Write the $\sqrt{}$ as 2 $\sqrt{}$'s.

③ Simplify

Rules ① Simplify completely.
② No $\sqrt{}$ in the denominator.

Squares

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$
$6^2 = 36$
$7^2 = 49$
$8^2 = 64$
$9^2 = 81$
$10^2 = 100$
$11^2 = 121$
$12^2 = 144$
$13^2 = 169$
$14^2 = 196$
$15^2 = 225$

1.) $\sqrt{44} = \sqrt{4}\sqrt{11} = 2\sqrt{11}$

2.) $\sqrt{63} = \sqrt{9}\sqrt{7} = 3\sqrt{7}$

3.) $\sqrt{144} = 12$

4.) $\sqrt{338} = \sqrt{169}\sqrt{2} = 13\sqrt{2}$

$2 \cdot 169$

5.) $\sqrt{175} = \sqrt{25}\sqrt{7} = 5\sqrt{7}$

6.) $\sqrt{24} = \sqrt{4}\sqrt{6} = 2\sqrt{6}$

7.) $\sqrt{18} = \sqrt{9}\sqrt{2} = 3\sqrt{2}$

8.) $\sqrt{72} = \sqrt{9}\sqrt{8}$

$= 3\sqrt{8} = 3\sqrt{4}\sqrt{2}$

$= 6\sqrt{2}$

$\sqrt{36}\sqrt{2}$

$= 6\sqrt{2}$

9.) $\sqrt{26} = \sqrt{26}$

10.) $\sqrt{80}$

$= \sqrt{16}\sqrt{5}$

$= 4\sqrt{5}$

13.) $\frac{2}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{2\sqrt{3}}{\sqrt{9}} = \frac{2\sqrt{3}}{3}$

14.) $\frac{6}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{6\sqrt{3}}{3} = 2\sqrt{3}$

15.) $\sqrt{12} = \sqrt{4}\sqrt{3} = 2\sqrt{3}$

16.) $\frac{6}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{6\sqrt{2}}{2} = 3\sqrt{2}$

17.) $\frac{4\sqrt{3}}{\sqrt{3}} = 4$

18.) $\frac{6\sqrt{3}}{\sqrt{3}} = 6$

19.) $\frac{\sqrt{12}}{\sqrt{3}} = \sqrt{4} = 2$

20.) $\frac{6\sqrt{2}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$

$= \frac{6\sqrt{6}}{3} = 2\sqrt{6}$

42.) $\dfrac{14\sqrt{150}}{7\sqrt{2}} = 2\sqrt{75}$

$= 2\sqrt{25}\sqrt{3}$

$= 2(5)\sqrt{3}$

$= \underline{10\sqrt{3}}$