Worksheet Dividing Radicals Review Day 2

Name Key

Simplify the following radicals. Leave no square root in the denominator, simplify all radical and numbers.

1) $\sqrt{\frac{4}{5}} = \frac{2}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$

2) $\frac{5}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{5\sqrt{3}}{3}$

3) $\sqrt{\frac{16}{3}} = \frac{\sqrt{16}}{\sqrt{3}} = \frac{4}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{4\sqrt{3}}{3}$

4) $\sqrt{\frac{15}{5}} = \sqrt{3}$

5) $\frac{2}{\sqrt{7}} \cdot \frac{\sqrt{7}}{\sqrt{7}} = \frac{2\sqrt{7}}{7}$

6) $\frac{\sqrt{7}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{21}}{3}$

7) $\sqrt{\frac{1}{2}} = \frac{\sqrt{1}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

8) $\frac{\sqrt{18}}{\sqrt{10}} = \frac{3}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{3\sqrt{5}}{5}$

9) $\frac{\sqrt{42}}{\sqrt{7}} = \sqrt{6}$

10) $\frac{\sqrt{169}}{\sqrt{11}} = \frac{13}{\sqrt{11}} \cdot \frac{\sqrt{11}}{\sqrt{11}} = \frac{13\sqrt{11}}{11}$

11) $\frac{14}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{14\sqrt{2}}{2} = 7\sqrt{2}$

12) $\frac{\sqrt{11}}{\sqrt{32}} = \frac{\sqrt{11}}{4\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{22}}{8}$

13) $\frac{\sqrt{1}}{\sqrt{2}} = \frac{1}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

14) $\frac{\sqrt{30}}{\sqrt{6}} = \sqrt{5}$

15) $\frac{8}{\sqrt{20}} = \frac{8}{2\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{8\sqrt{5}}{10} = \frac{4\sqrt{5}}{5}$

16) $\frac{\sqrt{1}}{2\sqrt{2}} = \frac{1}{2\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{\sqrt{2}}{4}$

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

18) $\frac{2\sqrt{1}}{\sqrt{15}} = \frac{2}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$

19) $\frac{9}{2\sqrt{45}} = \frac{9}{6\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{9\sqrt{5}}{30} = \frac{3\sqrt{5}}{10}$

20) $\frac{\sqrt{18}}{\sqrt{10}} = \frac{\sqrt{9}}{\sqrt{5}} = \frac{3}{\sqrt{5}} \cdot \frac{\sqrt{5}}{\sqrt{5}} = \frac{3\sqrt{5}}{5}$

21) $\frac{4\sqrt{10}}{\sqrt{6}} = = \frac{4\sqrt{5}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{4\sqrt{15}}{3}$

22) $\sqrt{\frac{36}{49}} = \frac{6}{7}$

23) $\sqrt{\frac{1}{4}} = \frac{1}{2}$

24) $5\sqrt{\frac{12}{36}} = \frac{5(2)\sqrt{3}}{6}$
$= \frac{10\sqrt{3}}{6} = \frac{5\sqrt{3}}{3}$

25) $\left(\sqrt{\frac{3}{4}}\right)^2 = \frac{3}{4}$

26) $\sqrt{\frac{1}{3}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

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

28) $\frac{\sqrt{7}}{\sqrt{36}} = \frac{\sqrt{7}}{6}$

29) $\frac{3\sqrt{27}}{\sqrt{2}} = \frac{9\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$
$\sqrt{27}$ $= \frac{9\sqrt{6}}{2}$
$9 \cdot 3$
$3 \cdot 3$

30) $\frac{\sqrt{7}}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{21}}{3}$

31) $\frac{\sqrt{27}}{\sqrt{14}} = \frac{3\sqrt{3}}{\sqrt{14}} \cdot \frac{\sqrt{14}}{\sqrt{14}}$
$= \frac{3\sqrt{42}}{14}$

32) $\frac{5}{\sqrt{8}} = \frac{5}{2\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}} = \frac{5\sqrt{2}}{4}$

33) $\frac{\sqrt{2}}{\sqrt{6}} = \frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

34) $\frac{\sqrt{8}}{\sqrt{60}} = \frac{2\sqrt{21}}{\sqrt{6030}} = \frac{2}{\sqrt{30}} \cdot \frac{\sqrt{30}}{\sqrt{30}}$
$= \frac{2\sqrt{30}}{30}$

35) $\frac{3\sqrt{513}}{\sqrt{171}} = 3\sqrt{3}$

36) ~~$\frac{2\sqrt{5}}{\sqrt{25}} \neq \frac{2}{5}$~~
$\frac{2}{\sqrt{15}} \cdot \frac{\sqrt{15}}{\sqrt{15}} = \frac{2\sqrt{15}}{15}$

37) $\frac{8}{\sqrt{27}} = \frac{8}{3\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{8\sqrt{3}}{9}$

38) $\frac{\sqrt{64}}{\sqrt{18}} = \frac{8}{3\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$
$= \frac{8\sqrt{2}}{6} = \frac{4\sqrt{2}}{3}$

39) $\frac{\sqrt{3}}{\sqrt{25}} = \frac{\sqrt{3}}{5}$

40) $2\sqrt{\frac{18}{36}} = \frac{2\sqrt{18}}{6}$
$\sqrt{18}$ $= \frac{6\sqrt{2}}{6}$
$9 \cdot 2$
$3 \cdot 3$ $= \sqrt{2}$

41) $6\sqrt{\frac{1}{3}} = \frac{6}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}}$
$= \frac{6\sqrt{3}}{3}$
$= 2\sqrt{3}$

42) $\frac{\sqrt{20}}{\sqrt{49}} = \frac{2\sqrt{5}}{7}$