

# MULTIPLYING RADICALS Maze!

Directions: Find the exact simplified value of each expression. Use your solutions to navigate through the maze. **STAPLE ALL WORK TO THIS PAPER!**

**Start!**

$(\sqrt{2}+4)(\sqrt{2}+2)$   $10+3\sqrt{2}$   $3\sqrt{15}(\sqrt{10}+2)$   $36\sqrt{5}$   $\sqrt{15}\cdot\sqrt{12}$   $3\sqrt{5}$   $-5\sqrt{15}\cdot\sqrt{5}$   
 $1+3\sqrt{3}$   $-2\sqrt{6}+\sqrt{6}$   $2\sqrt{21}$   $3\sqrt{5}$   $9\sqrt{5}$   $6\sqrt{5}$   $6\sqrt{7}$   
 $(1-\sqrt{3})(-2+\sqrt{3})$   $-2\sqrt{6}+2$   $\sqrt{2}(-2\sqrt{3}+\sqrt{2})$   $10\sqrt{2}$   $\sqrt{20}\cdot\sqrt{10}$   $4\sqrt{2}+\sqrt{20}$   $\sqrt{2}(4-\sqrt{10})$   
 $-5+3\sqrt{5}$   $4-2\sqrt{6}$   $\sqrt{50}+\sqrt{2}$   $-4\sqrt{5}+2$   $11+5\sqrt{5}$   $4\sqrt{2}+2\sqrt{5}$   $9+18\sqrt{2}$   
 $4\sqrt{4}(-3\sqrt{2})$   $-24\sqrt{2}$   $\sqrt{5}(\sqrt{6}+\sqrt{2})$   $\sqrt{40}$   $(\sqrt{5}+3)(\sqrt{5}+2)$   $11+5\sqrt{10}$   $(3\sqrt{2}+3)(\sqrt{2}+4)$   
 $24\sqrt{2}$   $-12\sqrt{5}$   $\sqrt{50}+\sqrt{5}$   $2\sqrt{5}+\sqrt{5}$   $11$   $6$   $3\sqrt{2}+12$   
 $\sqrt{5}(5+\sqrt{6})$   $\sqrt{3}+3\sqrt{2}$   $\sqrt{5}(2+\sqrt{10})$   $2\sqrt{33}$  **End!**  $6+2\sqrt{5}$   $(\sqrt{5}+1)^2$   
 $46$   $2\sqrt{3}+\sqrt{30}$   $12$   $\sqrt{6}+\sqrt{30}$   $9+3\sqrt{10}$   $27+6\sqrt{10}$   $\sqrt{30}-27$   
 $(-2+4\sqrt{5})(-5+3\sqrt{5})$   $\sqrt{6}$   $-\sqrt{6}\cdot 2\sqrt{6}$   $-72$   $(\sqrt{2}+5\sqrt{5})(\sqrt{2}+\sqrt{5})$   $\sqrt{30}-12$   $\sqrt{5}(\sqrt{10}-4\sqrt{5})$   
 $26-28\sqrt{3}$   $46-26\sqrt{5}$   $4\sqrt{5}$   $\sqrt{30}$   $1+2\sqrt{2}$   $4\sqrt{12}$   $8\sqrt{3}$   
 $(\sqrt{5}+\sqrt{2})(\sqrt{5}-4\sqrt{2})$   $11+3\sqrt{6}$   $\sqrt{10}\cdot\sqrt{2}$   $2\sqrt{5}$   $(-1+\sqrt{2})(1+\sqrt{2})$   $1$   $\sqrt{2}\cdot 4\sqrt{6}$

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# DIVIDING RADICALS Maze!

V1

Directions: Find the exact simplified value of each expression. Use your solutions to navigate through the maze. **STAPLE ALL WORK TO THIS PAPER!**

**Start!**

$\frac{6\sqrt{21}}{5\sqrt{49}}$   $6\sqrt{11}$   $\frac{\sqrt{2}}{\sqrt{49}}$   $\frac{\sqrt{2}}{7}$   $\frac{3\sqrt{35}}{\sqrt{252}}$   $\frac{\sqrt{5}}{2}$  **End!**  
 $3\sqrt{2}$   $\frac{6\sqrt{21}}{35}$   $4\sqrt{7}$   $\frac{\sqrt{13}}{3}$   $\sqrt{2}$   $\frac{3\sqrt{3}}{4}$   $4\sqrt{5}$   
 $\frac{2\sqrt{18}}{\sqrt{4}}$   $\frac{3\sqrt{13}}{2}$   $\frac{5\sqrt{10}}{\sqrt{32}}$   $8\sqrt{6}$   $\frac{\sqrt{18}}{\sqrt{9}}$   $\frac{5\sqrt{6}}{4}$   $\frac{5\sqrt{42}}{2\sqrt{28}}$   
 $\frac{1}{9}$   $\frac{3\sqrt{3}}{7}$   $7\sqrt{2}$   $\frac{5\sqrt{5}}{4}$   $2\sqrt{5}$   $\frac{\sqrt{11}}{3}$   $\sqrt{5}$   
 $\frac{4\sqrt{6}}{6\sqrt{216}}$   $\frac{2\sqrt{3}}{9}$   $\frac{6\sqrt{18}}{7\sqrt{48}}$   $\frac{3\sqrt{6}}{14}$   $\frac{4\sqrt{10}}{6\sqrt{9}}$   $3\sqrt{10}$   $\frac{\sqrt{15}}{\sqrt{5}}$   
 $\sqrt{10}$   $\frac{\sqrt{7}}{36}$   $\sqrt{7}$   $\frac{7}{36}$   $\sqrt{11}$   $\frac{2\sqrt{10}}{9}$   $\sqrt{7}$   
 $\frac{4\sqrt{15}}{\sqrt{36}}$   $2\sqrt{5}$   $\frac{\sqrt{21}}{6\sqrt{108}}$   $\frac{3\sqrt{6}}{5}$   $\frac{6\sqrt{24}}{\sqrt{100}}$   $\frac{3\sqrt{6}}{10}$   $\frac{3\sqrt{42}}{\sqrt{54}}$   
 $\sqrt{6}$   $\frac{7}{6}$   $\sqrt{5}$   $\sqrt{6}$   $\sqrt{6}$   $\frac{5\sqrt{5}}{2}$   $\sqrt{3}$   
 $\frac{\sqrt{5}}{\sqrt{144}}$   $6\sqrt{7}$   $\frac{2\sqrt{5}}{3}$   $\frac{\sqrt{2}}{7}$   $\frac{\sqrt{6}}{\sqrt{196}}$   $\frac{7\sqrt{2}}{3}$   $\frac{2\sqrt{55}}{\sqrt{45}}$   
**Start!**  $\frac{\sqrt{7}}{3\sqrt{343}}$   $\frac{1}{3}$   $\frac{7\sqrt{2}}{\sqrt{98}}$   $\frac{\sqrt{6}}{7}$   $\frac{\sqrt{42}}{\sqrt{216}}$

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# DIVIDING RADICALS Maze!

V2

Directions: Find the exact simplified value of each expression. Use your solutions to navigate through the maze. **STAPLE ALL WORK TO THIS PAPER!**

**Start!**

$\frac{3-\sqrt{3}}{\sqrt{2}}$   $\frac{2\sqrt{3}}{3}$   $\frac{2\sqrt{2}}{\sqrt{5}}$   $\frac{5\sqrt{5}-5\sqrt{6}}{9}$   $\frac{5-5\sqrt{2}}{3\sqrt{3}}$   $2\sqrt{15}$   $\frac{6\sqrt{25}}{\sqrt{15}}$   
 $\sqrt{13}$   $\frac{3\sqrt{2}-\sqrt{6}}{2}$   $7$   $\sqrt{7}$   $\frac{3\sqrt{6}}{2}$   $\frac{5\sqrt{3}}{6}$   $\frac{1}{3}$   
**End!**  $\frac{\sqrt{2}}{2}$   $\frac{7\sqrt{12}}{2\sqrt{42}}$   $\frac{\sqrt{14}}{2}$   $\frac{5-\sqrt{5}}{\sqrt{20}}$   $\frac{\sqrt{3}}{2}$   $\frac{3+\sqrt{3}}{\sqrt{12}}$   
 $\frac{\sqrt{2}+2}{\sqrt{2}}$   $5\sqrt{5}$   $\frac{5\sqrt{15}}{\sqrt{5}}$   $\frac{\sqrt{3}}{5}$   $\frac{5\sqrt{6}}{\sqrt{7}}$   $\sqrt{7}$   $\frac{7\sqrt{8}}{2\sqrt{12}}$   
 $\frac{2\sqrt{7}}{35}$   $\frac{\sqrt{3}}{14}$   $-\sqrt{7}$   $\frac{7\sqrt{7}}{10}$   $\frac{3\sqrt{3}}{14}$   $\frac{5\sqrt{42}}{7}$   $\frac{\sqrt{11}}{6}$   
 $\frac{5-5\sqrt{2}}{\sqrt{5}}$   $\frac{7-\sqrt{7}}{35}$   $-\frac{7}{\sqrt{7}}$   $3\sqrt{7}$   $\frac{7\sqrt{3}}{\sqrt{2}}$   $\frac{7-\sqrt{5}}{12}$   $\frac{5-2\sqrt{2}}{4\sqrt{6}}$   
 $\sqrt{5}$   $\frac{\sqrt{15}}{6}$   $7$   $\frac{1-3\sqrt{5}}{14}$   $4-\sqrt{10}$   $\frac{3+2\sqrt{7}}{5}$   $\frac{5\sqrt{6}-4\sqrt{3}}{24}$   
 $\frac{\sqrt{5}}{2\sqrt{3}}$   $\frac{\sqrt{21}}{6}$   $\frac{\sqrt{7}}{5\sqrt{6}}$   $\frac{\sqrt{7}}{5}$   $\frac{2-3\sqrt{5}}{5\sqrt{20}}$   $\frac{\sqrt{6}-\sqrt{2}}{5}$   $\frac{\sqrt{35}}{\sqrt{10}}$   
 $\frac{-4+\sqrt{6}}{3}$   $\frac{3\sqrt{2}-\sqrt{6}}{6}$   $\frac{2\sqrt{5}}{3}$   $\frac{2\sqrt{5}-15}{30}$   $2\sqrt{2}$   $\frac{\sqrt{2}+\sqrt{33}}{11}$   $\frac{\sqrt{14}}{2}$   
 $\frac{4+\sqrt{3}}{\sqrt{20}}$   $4\sqrt{10}$   $\frac{2-\sqrt{3}}{\sqrt{18}}$   $\frac{3-\sqrt{2}}{2}$   $\frac{2\sqrt{14}}{\sqrt{6}}$   $\frac{2\sqrt{7}}{3}$   $\frac{\sqrt{2}+\sqrt{3}}{\sqrt{11}}$

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# DIVIDING RADICALS Maze!

V3

Directions: Find the exact simplified value of each expression. Use your solutions to navigate through the maze. **STAPLE ALL WORK TO THIS PAPER!**

**Start!**

$\frac{2+\sqrt{6}}{5-\sqrt{6}}$   $\frac{3\sqrt{5}+\sqrt{15}}{2}$   $\frac{\sqrt{5}}{3-\sqrt{3}}$   $\frac{\sqrt{2}}{3}$   $\frac{4}{7+\sqrt{5}}$   $\frac{5-9\sqrt{5}}{20}$   $\frac{4-3\sqrt{5}}{-5-3\sqrt{5}}$   
 $\frac{16+7\sqrt{6}}{19}$   $\frac{5\sqrt{7}}{6}$   $\frac{4\sqrt{3}}{5}$   $\frac{\sqrt{7}}{5}$   $\frac{4\sqrt{7}+\sqrt{21}}{10}$   $\frac{7-\sqrt{5}}{11}$   $\frac{4+3\sqrt{6}}{2}$   
 $\frac{2}{6-\sqrt{2}}$   $\frac{6+\sqrt{2}}{17}$   $\frac{3+\sqrt{7}}{5+\sqrt{7}}$   $\frac{4+\sqrt{7}}{9}$   $\frac{\sqrt{7}}{4-\sqrt{6}}$   $\frac{7-3\sqrt{7}}{38}$   $\frac{7+2\sqrt{5}}{7-\sqrt{5}}$   
 $\frac{4+\sqrt{6}}{6}$   $\frac{2\sqrt{2}-\sqrt{6}}{6}$   $\frac{\sqrt{13}}{2}$   $\frac{3\sqrt{6}-5}{35}$   $3\sqrt{13}-8$   $\frac{59+2\sqrt{15}}{44}$   $\frac{-9+4\sqrt{11}}{3}$   
 $\frac{2}{3+\sqrt{3}}$   $\frac{1-\sqrt{3}}{3}$   $\frac{5+6\sqrt{2}}{4+\sqrt{2}}$   $\frac{6+19\sqrt{2}}{14}$   $\frac{7}{5-\sqrt{5}}$   $\frac{21+11\sqrt{2}}{7}$   $\frac{7+\sqrt{2}}{4-\sqrt{2}}$   
 $\frac{6-\sqrt{6}}{2}$   $\frac{2\sqrt{51}}{3}$   $\frac{7\sqrt{6}+21}{4}$   $\frac{5+7\sqrt{15}}{20}$   $\frac{2\sqrt{6}-15}{3}$   $\frac{\sqrt{3}-1}{2}$   $\frac{2\sqrt{2}-\sqrt{6}}{6}$   
 $\frac{3}{\sqrt{7}+2}$   $\sqrt{2}-7$   $\frac{3+7\sqrt{5}}{3+\sqrt{5}}$   $\frac{13-\sqrt{5}}{2}$   $\frac{2}{2\sqrt{7}+3}$   $\frac{4\sqrt{7}-6}{19}$   $\frac{4}{4-\sqrt{7}}$   
 $\frac{2+2\sqrt{6}}{5}$   $\frac{-13+9\sqrt{5}}{2}$   $\frac{5-\sqrt{3}}{2}$   $\frac{5+7\sqrt{6}}{6}$   $\frac{3+2\sqrt{3}}{9}$   $2+2\sqrt{5}$   $\frac{16+4\sqrt{7}}{9}$   
 $\frac{6}{5+\sqrt{3}}$   $\frac{\sqrt{6}+3\sqrt{5}}{23}$   $\frac{\sqrt{6}+\sqrt{3}}{5+\sqrt{2}}$   $\frac{4\sqrt{6}-\sqrt{5}}{32}$   $\frac{\sqrt{3}+3}{2\sqrt{3}-2}$   $\frac{2\sqrt{5}+2}{5}$  **End!**  
 $\frac{11+3\sqrt{3}}{15}$   $\frac{15-3\sqrt{3}}{11}$   $5-\sqrt{7}$   $5-\sqrt{7}$   $13-3\sqrt{7}$   $18\sqrt{6}-29\sqrt{2}$   $6\sqrt{6}+9\sqrt{2}$   
 $\frac{2+7\sqrt{7}}{7-\sqrt{7}}$   $\frac{7+17\sqrt{7}}{14}$   $\frac{5-\sqrt{7}}{5+\sqrt{7}}$   $\frac{16-5\sqrt{7}}{9}$   $\frac{2\sqrt{2}}{7-\sqrt{5}}$   $\frac{7\sqrt{6}+\sqrt{10}}{22}$   $\frac{7\sqrt{6}-4\sqrt{2}}{2+\sqrt{3}}$

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# MULTIPLYING & DIVIDING RADICALS Maze!

V1

Directions: Find the exact simplified value of each expression. Use your solutions to navigate through the maze. **STAPLE ALL WORK TO THIS PAPER!**

**Start!**

$\frac{2\sqrt{12}\sqrt{6}}{24}$   $24$   $5\sqrt{6}\sqrt{6}$   $\sqrt{30}$   $\sqrt{15}(\sqrt{15}-3\sqrt{3})$   $\frac{4\sqrt{6}}{3}$  **End!**  
 $-6\sqrt{3}$   $-12\sqrt{2}$   $6\sqrt{3}$   $\frac{\sqrt{10}}{2}$   $\frac{5\sqrt{3}-\sqrt{3}}{3}$   $15-9\sqrt{5}$   $\frac{\sqrt{3}}{21}$   
 $\frac{3\sqrt{2}}{\sqrt{98}}$   $\frac{\sqrt{5}}{7}$   $\frac{12\sqrt{30}}{\sqrt{36}}$   $\frac{2+\sqrt{7}}{6}$   $\frac{5\sqrt{5}}{\sqrt{3}}$   $\sqrt{5}$   $\frac{\sqrt{12}}{3\sqrt{196}}$   
 $\frac{\sqrt{6}}{3}$   $2\sqrt{30}$   $4\sqrt{7}$   $6$   $6\sqrt{6}$   $\frac{6\sqrt{2}}{7}$   $15\sqrt{3}$   
 $-\sqrt{20}\sqrt{30}$   $6\sqrt{10}$   $\frac{\sqrt{3}+\sqrt{2}}{5\sqrt{49}}$   $\frac{5\sqrt{2}}{28}$   $\sqrt{36}\sqrt{6}$   $3\sqrt{5}+4\sqrt{7}$   $\sqrt{3}(5+4\sqrt{7})$   
 $-10\sqrt{6}$   $-15\sqrt{10}$   $\frac{\sqrt{5}}{35}$   $\frac{8\sqrt{5}}{15}$   $7\sqrt{2}$   $\sqrt{15}$   $-12\sqrt{35}$   
 $\frac{\sqrt{42}}{2\sqrt{175}}$   $\frac{\sqrt{5}}{25}$   $\frac{4\sqrt{14}}{3\sqrt{5}}$   $13+2\sqrt{42}$   $(\sqrt{7}+\sqrt{6})^2$   $\sqrt{33}$   $\frac{5\sqrt{7}}{\sqrt{5}}$   
 $(\sqrt{6}+5)^2$   $25+2\sqrt{6}$   $\frac{5-7\sqrt{2}}{9\sqrt{36}}$   $\frac{1-\sqrt{5}}{9}$   $\frac{12\sqrt{5}-8}{4\sqrt{100}}$   $\frac{3\sqrt{5}-2}{10}$   $(1-6\sqrt{3})(-5+\sqrt{3})$   
 $31+10\sqrt{6}$   $\sqrt{3}+1$   $\frac{3-2\sqrt{2}}{7}$   $-6\sqrt{6}-18$   $\frac{\sqrt{11}}{13}$   $6+18\sqrt{7}$   $8$   
 $\frac{4-\sqrt{2}}{2\sqrt{7}}$   $\frac{4\sqrt{7}-\sqrt{14}}{14}$   $2\sqrt{3}(\sqrt{18}+3\sqrt{3})$   $\frac{8-5\sqrt{7}}{3}$   $\sqrt{5}(5+4\sqrt{7})$   $3\sqrt{7}+21$   $-2(-\sqrt{2}+\sqrt{18})$

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# MULTIPLYING & DIVIDING RADICALS Maze!

V2

Directions: Find the exact simplified value of each expression. Use your solutions to navigate through the maze. **STAPLE ALL WORK TO THIS PAPER!**

**Start!**

$\frac{-1-2\sqrt{7}}{-2-4\sqrt{7}}$   $\frac{3-\sqrt{5}}{4}$   $\sqrt{3}(\sqrt{6}-5\sqrt{6})$   $-10-5\sqrt{6}$   $\frac{5}{2-\sqrt{5}}$   $\frac{7\sqrt{15}}{15}$   $\frac{7\sqrt{7}}{5\sqrt{3}}$   
 $\frac{4+7\sqrt{6}}{7}$   $\frac{\sqrt{2}}{2}$   $-12\sqrt{2}$   $\frac{\sqrt{10}}{2}$   $-6\sqrt{5}+9$   $\frac{-6+9\sqrt{5}}{41}$   $\frac{\sqrt{7}}{24}$   
 $\frac{2}{7-3\sqrt{5}}$   $\frac{5+3\sqrt{5}}{2}$   $\frac{2+4\sqrt{3}}{\sqrt{20}}$   $\frac{4+\sqrt{7}}{9}$   $\frac{3\sqrt{3}}{2+\sqrt{3}}$   $\frac{-\sqrt{5}}{2}$   $\frac{\sqrt{35}}{4\sqrt{180}}$   
 $\frac{1}{6}$   $\frac{\sqrt{5}+2\sqrt{13}}{5}$   $\frac{2\sqrt{3}+2}{3}$   $\frac{4\sqrt{6}+1}{3}$   $\frac{9\sqrt{7}}{16}$   $\frac{1-5\sqrt{2}}{14}$   $\frac{-70\sqrt{3}}{4}$   
 $\frac{2\sqrt{15}}{\sqrt{245}}$   $\frac{2\sqrt{5}}{7}$   $\frac{4}{2+\sqrt{2}}$   $\frac{8+19\sqrt{2}}{14}$   $\frac{7}{5-\sqrt{5}}$   $\frac{28+11\sqrt{2}}{14}$  **Start!**  
 $\frac{8\sqrt{7}}{11}$   $\frac{15\sqrt{3}}{11}$   $4-2\sqrt{2}$   $\frac{55+7\sqrt{5}}{20}$   $\frac{14\sqrt{2}}{2}$   $\sqrt{30}$   $-12\sqrt{35}$   
**End!**  $\frac{20\sqrt{10}}{20\sqrt{10}}$   $\sqrt{10}(\sqrt{10}+2)$   $10+2\sqrt{10}$   $\frac{7\sqrt{24}}{4\sqrt{4}}$   $\frac{7\sqrt{6}}{4}$   $\frac{4}{6\sqrt{6}}$   
 $9-7\sqrt{5}$   $\frac{1-\sqrt{3}}{3}$   $\frac{10+7\sqrt{13}}{37}$   $\frac{4\sqrt{5}-5}{9}$   $-2-\sqrt{5}$   $\frac{\sqrt{7}}{9}$   $\frac{\sqrt{6}}{9}$   
 $\frac{3+5\sqrt{3}}{-2-\sqrt{3}}$   $\frac{16+\sqrt{6}}{4}$   $\frac{3}{6+\sqrt{2}}$   $\frac{5-\sqrt{2}}{11}$   $\frac{7\sqrt{20}}{\sqrt{49}}$   $\frac{2+3\sqrt{5}}{17}$   $\frac{\sqrt{5}-4}{3+\sqrt{5}}$   
 $\frac{1}{2}$   $\frac{3\sqrt{3}+5}{5}$   $\frac{6+3\sqrt{2}}{2}$   $2\sqrt{5}$   $\frac{\sqrt{3}}{11}$   $15+15\sqrt{7}$   $\frac{7\sqrt{5}-17}{4}$   
 $\frac{7-\sqrt{6}}{6-\sqrt{6}}$   $\frac{6+\sqrt{6}}{5}$   $\frac{3+\sqrt{5}}{\sqrt{5}}$   $\frac{16-5\sqrt{7}}{9}$   $\frac{2\sqrt{2}}{7-\sqrt{5}}$   $\frac{7\sqrt{2}+\sqrt{10}}{22}$   $(4+\sqrt{7})(-5+5\sqrt{7})$

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