

2.4 Division of Fractions

$5\frac{1}{2}$ yards $\frac{1}{4}$ yard

$5\frac{1}{2} \div \frac{1}{4} = 22$

$1 \text{ yard} = 20 \text{ bows}$

$\frac{2}{22} \text{ bows}$

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2 mile race

$\frac{1}{3}$ mi. apart

$2 \div \frac{1}{3} = 6$

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You and 2 friends

$7\frac{1}{2}$ pieces of pizza

$7\frac{1}{2} \div 3$

$= 2\frac{1}{2}$

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Reciprocal

$\frac{1}{2} \cdot \frac{2}{1} = 1$ $2 \cdot \frac{1}{2} = 1$

$3 \cdot \frac{1}{3} = 1$ $\frac{3}{4} \cdot \frac{4}{3} = 1$

$\frac{2}{3} \cdot \frac{3}{2} = 1$ $\frac{5}{6} \cdot \frac{6}{5} = 1$

$\frac{7}{5} \cdot \frac{5}{7} = 1$

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$8 \div \frac{1}{2} = 16$

$8 \div \frac{1}{4} = 32$

$2 \div \frac{1}{4} = 8$

$3 \div \frac{1}{5} = 15$

$3 \div \frac{1}{5}$

$3 \cdot \frac{5}{1} = 15$

$8 \div \frac{1}{2}$

$8 \cdot \frac{2}{1} = 16$

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$4 \div \frac{2}{3} = 6$

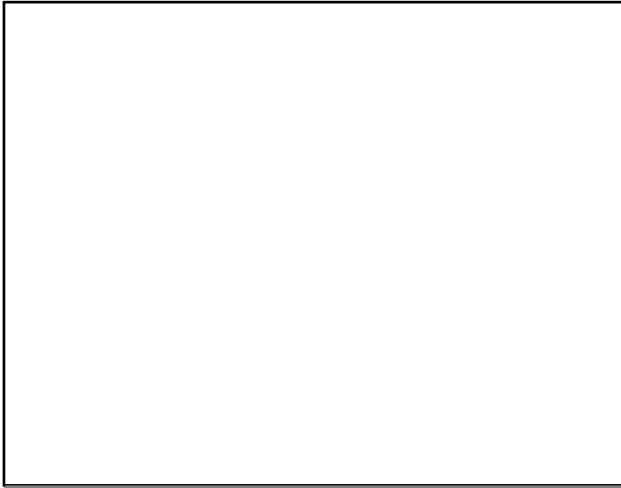
$\frac{4}{1} \cdot \frac{3}{2} = \frac{12}{2} = 6$

$\frac{3}{5} \div \frac{3}{4} = \frac{3}{5} \cdot \frac{4}{3} = \frac{12}{15} = \frac{4}{5}$

$\frac{7}{10} \div \frac{3}{8} = \frac{7}{10} \cdot \frac{8}{3} = \frac{56}{30} = \frac{28}{15} = 1\frac{13}{15}$

$\frac{7}{5} \cdot \frac{4}{4} = \frac{4}{5}$

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$\frac{1}{3} \div \frac{1}{6} =$
 $\frac{1}{3} \cdot \frac{6}{1} = \frac{6}{3} = 2$
 $\frac{12}{25} \div 6$
 $\frac{12}{25} \cdot \frac{1}{6} = \frac{12}{150}$
 $\frac{12}{25} \cdot \frac{1}{6} = \frac{2}{25}$

$\frac{5}{9} \div \frac{10}{3}$
 $\frac{5}{9} \cdot \frac{3}{10} = \frac{15}{90}$
 $\frac{5}{32} \div \frac{10}{42}$
 $\frac{5}{32} \cdot \frac{42}{10}$
 $\frac{8}{2 \cdot 2 \cdot 2 \cdot 2} \cdot \frac{2 \cdot 3 \cdot 7}{2 \cdot 5} = \frac{21}{32}$

Prime factorization of 42: $42 = 2 \cdot 3 \cdot 7$
 Prime factorization of 32: $32 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$

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$18 \div \left(\frac{3}{5}\right)^2 + 48 \div \left(\frac{2}{5}\right)^2$
 $18 \div \frac{9}{25} + 48 \div \frac{4}{25}$
 $\frac{18^2}{1} \cdot \frac{25}{9} + 48 \div \frac{4}{25}$

$\frac{3}{5} \cdot \frac{3}{5} = \left(\frac{3}{5}\right)^2$
 $5^2 = 5 \cdot 5$
 $\frac{3}{5} \cdot \frac{3}{5}$
 $(7-3)^2$
 $4^2 = \left(\frac{2}{5}\right)^2 = \frac{4}{25}$
 $(-7)^2 = \frac{3^2}{5} = \frac{9}{5}$

PE
 u/d
 +/s

$50 + 48 \div \frac{4}{25}$
 $50 + \frac{48 \cdot 25}{4}$
 $50 + 300$
 350

$\frac{48 \cdot 25}{4}$
 $\frac{2400}{4}$
 $\frac{1200}{1}$

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