HW SOL 3.4

September 24, 2020   9:07 AM

Name:_____   Date:_____
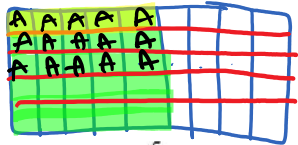
Section 3.4 Multiplying Rational Numbers

1. Multiply the following. Keep your answers as a fraction in simplest form. No calculators:

a) $\dfrac{2}{5}\times\dfrac{15}{18}=\dfrac{3}{9}=\dfrac{1}{3}$	b) $\dfrac{4}{7}\times\dfrac{14}{24}=\dfrac{2}{6}=\dfrac{1}{3}$	c) $\dfrac{12}{28}\times\dfrac{42}{15}$ $=\dfrac{2\cdot1}{1}\times\dfrac{3}{5}=\dfrac{6}{5}$	d) $\dfrac{12}{5}\times\dfrac{25}{6}$ $=10$
e) $\dfrac{27}{8}\times\dfrac{24}{81}$ $=\dfrac{3}{3}=1$	f) $\dfrac{25}{27}\times\dfrac{36}{45}$ $=\dfrac{5\times4}{3\times9}$ $=\dfrac{20}{27}$	g) $\dfrac{54}{56}\times\dfrac{18}{10}\times\dfrac{64}{81}$ $\dfrac{6\times18\times8}{7\times10\times9}=\dfrac{6\times2\times4}{7\times5\times1}$ $=\dfrac{48}{35}$	h) $\dfrac{8}{21}\times\dfrac{18}{36}\times\dfrac{24}{27}$ $\dfrac{8\times9\times8}{7\times18\times27}$ $=\dfrac{32}{189}$
i) 1.25×0.375 $\dfrac{5}{8}\times\dfrac{3}{32}=\dfrac{15}{32}$ 3	j) $1\dfrac{11}{16}\times0.\overline{888}$ $\dfrac{27}{16}\times\dfrac{8}{9}=\dfrac{3}{2}$	k) $1\dfrac{3}{7}\times0.\overline{777}$ $\dfrac{10}{7}\times\dfrac{7}{9}=\dfrac{10}{9}$	L) 0.64×0.25 $\dfrac{64}{100}\times\dfrac{1}{4}=\dfrac{16}{100}$ $=0.16$
m) 0.25×-0.60 $\dfrac{1}{4}\times\left(\dfrac{-6}{10}\right)$ $=\dfrac{-3}{20}$	n) $-0.8\overline{333}\times1.5$ $\dfrac{-5}{6}\times\dfrac{3}{2}$ $=\dfrac{-5}{4}=1.25$	o) $1.\overline{333}\times0.875$ $\dfrac{4}{3}\times\dfrac{7}{8}=\dfrac{7}{6}$	p) 1.25×-3.2 $1\dfrac{1}{4}\times-3\dfrac{1}{5}$ $\dfrac{5}{4}\times\dfrac{-16}{5}$ $=-4$
q) $3.2\times\left(0.1\overline{666}\right)\times(2.5)$ $3\dfrac{1}{5}\times\dfrac{1}{6}\times\dfrac{5}{2}$ $\dfrac{16}{5}\times\dfrac{1}{6}\times\dfrac{5}{2}$ $=\dfrac{8}{6}=\dfrac{4}{3}$	r) $\dfrac{8}{15}\times\dfrac{27}{20}\times\dfrac{-15}{18}$ $\dfrac{8\times3(-1)}{25\times2}$ $\dfrac{2\times-3}{5\times2}=\dfrac{-3}{5}$	s) $1.23\times2.8\times1.2$ $\dfrac{123}{100}\times\dfrac{28}{10}\times\dfrac{12}{10}$ $=\dfrac{123\times7\times6}{1250}$ $=\dfrac{5166}{1250}$	t) $0.026\times4\times5.2$ $\dfrac{26}{1000}\times4\times\dfrac{52}{10}$ $=\dfrac{26\times52}{250\times10}$ $=\dfrac{338}{625}$

Copyright All Rights Reserved at Homework Depot www.BCMath.ca   1

Chapter 3 Rational Numbers Page 1

2. Determine the missing number in the box so that the expression will be true:

a) $\frac{3}{4} \times \boxed{} = \frac{5}{8}$	b) $2.40 \times \boxed{} = 1.\overline{333}$	c) $1.875 \times \boxed{} = 4.5$
$\frac{3}{4} \times \left(\frac{4}{3} \times \frac{5}{8}\right) = \frac{5}{8}$ $\frac{3}{4} \times \boxed{\frac{5}{6}} = \frac{5}{8}$	$\frac{24}{10} \times \boxed{\frac{10}{24} \times \frac{4}{3}} = \frac{4}{3}$ $? = \frac{5}{24} \times \frac{4}{3}$ $? = \frac{5}{3}$ $\boxed{\frac{5}{9}}$	$1\frac{7}{8} \times \boxed{} = \frac{9}{2}$ $\boxed{\therefore ? = \frac{12}{5}}$ $\frac{15}{8} \times \boxed{\frac{8}{15} \times \frac{9}{2}} = \frac{9}{2}$
d) $-3.25 \times \boxed{} = 15\frac{11}{40}$	e) $-0.045 \times \boxed{-4} = 0.18$	f) $6.75 \times \boxed{\frac{7}{9}} = 5.25$
$? = 15\frac{11}{40} \div -3\frac{1}{4}$ $= \frac{611}{40} \div \frac{-130}{40}$ $= \frac{611}{130} = \frac{47}{10}$	$? = 0.18 \div (-0.045)$ $= \frac{18}{100} \div \frac{-45}{1000}$ $= \frac{18}{100} \times \frac{1000}{-45} = -4$	$? = 5.25 \div 6.75$ $? = 5\frac{1}{4} \div 6\frac{3}{4}$ $\frac{21}{4} \div \frac{27}{4} = \frac{21}{27} = \frac{7}{9}$

3. 5/9 of the students are passing in Science class and 3/5 of these students are getting A's. What fractions of all students are getting A's?

$= \frac{15}{45} = \frac{1}{3}$

# of A's $= \frac{5}{9} \times \frac{3}{5} = \frac{1}{3}$

4. A plant grew $2\frac{5}{8}$ of an inch every day. How many inches will it grow in $12\frac{1}{3}$ days?

Growth $= 2\frac{5}{8} \times 12\frac{1}{3}$

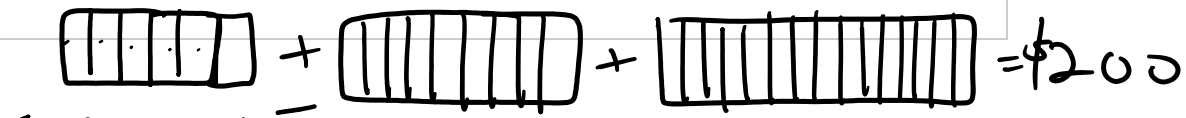$= \frac{21}{8} \times \frac{37}{3} = \frac{7 \times 37}{8} = \frac{259}{8}$ inches

5. David ran $2\frac{1}{3}$ laps around a track in 1 hour. How many laps can he run in $3.75h$ if he maintained the same speed?

6. Challenge: Sharon has some money in her pocket. Her friend Wendy has $1\frac{1}{2}$ $\boxed{\frac{3}{2}}$ times as much as Sharon. Another friend Chelsea has $1\frac{2}{3}$ $\boxed{\frac{5}{6}}$ times as much money as Wendy. Altogether they have $200. How much money does Sharon have?

Sharon: $6   Wendy $= 6 \times \frac{3}{2} = \$9$ Chelsea $= \$9 \times \frac{5}{3}$

$= \$15$

$\boxed{} + \boxed{} + \boxed{} = \$200$

Sharon $= 6 \times 6.\overline{66}$

30 Boxes $= \$200$

1 Box $= \$6.\overline{66}$

Wendy $= 9 \times 6.\overline{66}$

Chelsea $= 15 \times 6.\overline{66}$