SOL Review 2.1 to 2.5

November 9, 2019   10:47 PM

Name:____*Key*s_____   Date:_____

Math 8 Ch 2.1 to 2.5 Review Multiplying and Dividing Fractions:

1. Divide each of the following fractions. Show all your work and steps

a) $\dfrac{18}{24} \div \dfrac{27}{16}$

$\dfrac{18}{24} \times \dfrac{16}{27}$

$= \dfrac{2}{3} \times \dfrac{2}{3} = 4/9$

b) $\dfrac{2}{7} \div \dfrac{2}{7}$

$\dfrac{2}{7} \times \dfrac{7}{2} = 1$

NOTE.
ANY VALUE DIVIDED BY ITSELF IS EQUAL TO ONE
* ONLY EXCEPTION IS ZERO

c) $\dfrac{35}{24} \div \dfrac{49}{64}$

$\dfrac{35}{24} \times \dfrac{64}{49}$

$= \dfrac{5}{3} \times \dfrac{8}{7} = \dfrac{40}{21}$

d) $\dfrac{2}{3} \div \dfrac{10}{12} \times \dfrac{9}{8}$

$= \dfrac{1}{1} \times \dfrac{1}{5} \times \dfrac{9}{2}$

$\dfrac{2}{3} \times \dfrac{12}{10} \times \dfrac{9}{8}$

$\dfrac{1}{1} \times \dfrac{4}{5} \times \dfrac{9}{8} = \dfrac{9}{10}$

e) $\dfrac{10}{32} \times \dfrac{18}{15} \div \dfrac{27}{16}$

$= \dfrac{2}{1} \times \dfrac{1}{3} \times \dfrac{1}{3}$

$\dfrac{10}{32} \times \dfrac{18}{15} \times \dfrac{16}{27}$

$\dfrac{10}{32} \times \dfrac{2}{15} \times \dfrac{1}{3} = \dfrac{2}{9}$

f) $\dfrac{4}{9} \div \dfrac{12}{18} \div \dfrac{22}{8} \div \dfrac{33}{6}$

$= \dfrac{1}{1} \times \dfrac{1}{1} \times \dfrac{8}{11} \times \dfrac{2}{11}$

$\dfrac{4}{9} \times \dfrac{18}{12} \times \dfrac{8}{22} \times \dfrac{6}{33}$

$\dfrac{1}{1} \times \dfrac{2}{3} \times \dfrac{8}{22} \times \dfrac{6}{11} = \dfrac{16}{121}$

g) $1\dfrac{2}{3} \div 2\dfrac{1}{7}$

steps #1)
CHANGE ALL FRACTION TO IMPROPER FRACTION

$\dfrac{5}{3} \div \dfrac{15}{7}$

$\dfrac{5}{3} \times \dfrac{7}{15}$

$= \dfrac{1}{3} \times \dfrac{7}{3}$

$= \dfrac{7}{9}$

h) $3\dfrac{2}{11} \div 8\dfrac{1}{3}$

$\dfrac{35}{11} \div \dfrac{25}{3}$

$\dfrac{35}{11} \times \dfrac{3}{25}$

$= \dfrac{21}{55}$

i) $2\dfrac{4}{5} \div 2\dfrac{1}{10}$

$\dfrac{14}{5} \div \dfrac{21}{10}$

$\dfrac{14}{5} \times \dfrac{10}{21}$

$\dfrac{2}{1} \times \dfrac{2}{3}$

$= \dfrac{4}{3}$

2. Match each division statement on the left with the correct multiplication statement on the right:

I	$10 \div \dfrac{1}{3}$ → $10 \times \dfrac{3}{1}$ (L)	a) $\dfrac{8}{3} \times \dfrac{2}{3}$	b) $11 \times \dfrac{1}{9}$
ii)	$\dfrac{2}{3} \div 7$ → $\dfrac{2}{3} \times \dfrac{1}{7}$ (C)	c) $\dfrac{2}{3} \times \dfrac{1}{7}$	d) $\dfrac{1}{11} \times \dfrac{1}{9}$
iii)	$\dfrac{5}{3} \div \dfrac{4}{6}$ → $\dfrac{5}{3} \times \dfrac{6}{4}$ → $\dfrac{5}{3} \times \dfrac{3}{2}$ (K)	e) 12×8	f) $\dfrac{1}{12} \times 8$
iv)	$11 \div 9$ → $11 \div \dfrac{9}{7}$ → $11 \times \dfrac{1}{9}$ (B)	g) $\dfrac{3}{2} \times \dfrac{1}{7}$	h) $3 \times \dfrac{1}{10}$
v)	$\dfrac{1}{12} \div \dfrac{1}{8}$ → $\dfrac{1}{12} \times \dfrac{8}{1}$ (F)	i) $2\dfrac{2}{3} \times 1\dfrac{2}{1}$	J) $\dfrac{5}{3} \times \dfrac{4}{6}$
vi)	$2\dfrac{2}{3} \div 1\dfrac{1}{2}$ → $\dfrac{8}{3} \div \dfrac{3}{2}$ → $\dfrac{8}{3} \times \dfrac{2}{3}$ (A)	k) $\dfrac{5}{3} \times \dfrac{3}{2}$	L) 10×3

3. Which of the following equations is equal to expression: $\dfrac{A}{B} \times \dfrac{C}{D} \div \dfrac{E}{F} \div \dfrac{G}{H}$? → $\dfrac{A}{B} \times \dfrac{C}{D} \times \dfrac{F}{E} \times \dfrac{H}{G}$

i) $\dfrac{A \times C \times E \times G}{B \times D \times F \times H}$ ii) $\dfrac{A \times C \times F \times G}{B \times D \times E \times H}$ iii) $\dfrac{A \times D \times F \times G}{B \times C \times E \times H}$ (iv) $\boxed{\dfrac{A \times C \times F \times H}{B \times D \times E \times G}}$ v) $\dfrac{B \times D \times E \times G}{A \times C \times F \times H}$

4. James has 100 pounds of candy and wants to split it into smaller bags. If each bag can hold $\dfrac{1}{2}$ a pound of candy, how many bags can he make?

   a) Write an equation to represent the scenario

   $$\text{NUMBER OF BAGS} = 100 \div \left(\tfrac{1}{2}\right)$$

   b) Solve the equation and find out how many bags he can make:

   $$\text{NUMBER OF BAGS} = 100 \div \left(\tfrac{1}{2}\right)$$
   $$= 100 \times \left(\tfrac{2}{1}\right) = 200 \text{ BAGS}$$

5. Dave took 8/9 of his savings and decided to invest it. With his investments, 2/3 of it will go into the Canadian stock market. Amongst his Canadian stocks, ½ of it will be invested into Oil companies. If Dave had $100,000 in his savings account, how much did he invest into Oil companies?

   a) Write an equation to represent the scenario

   ① SAVINGS = 100,000

   ② INVESTMENT = 100,000 × $\tfrac{8}{9}$

   ③ CANADIAN STOCKS = 100,000 × $\tfrac{8}{9}$ × $\tfrac{2}{3}$

   ④ OIL STOCKS = 100,000 × $\tfrac{8}{9}$ × $\tfrac{2}{3}$ × $\tfrac{1}{2}$

   b) Solve the equation and find out ~~how many bags he can make:~~ HOW MUCH WAS INVESTED IN OIL STOCKS:

   $$\text{\$ IN OIL} = 100,000 \times \tfrac{8}{9} \times \tfrac{2}{3} \times \tfrac{1}{2} = \frac{800,000}{27} \approx$$

6. Sandy's dad just finished working and was paid $8000 for his work. Her dad gave her mom $\dfrac{5}{8}$ of his salary to pay for household expenses. Her mom gave her brother $\dfrac{1}{15}$ of the amount she received as allowances for her brother. Her brother gave Sandy $\dfrac{2}{3}$ of his allowances because he owed her money. How much money did Sandy get from her brother?

   a) Write an equation for this scenario

   ① MOM = $\tfrac{5}{8}$ × 8000

   ② BROTHER = $\tfrac{1}{15}$ × $\tfrac{5}{8}$ × 8000

   ③ SANDY = $\tfrac{2}{3}$ × $\tfrac{1}{15}$ × $\tfrac{5}{8}$ × 8000

   $$= \tfrac{2}{3} \times \tfrac{1}{3} \times \tfrac{1}{1} \times 1000$$
   $$= 2000/9$$

   b) Solve the scenario and find out how much money Sandy got from her brother