

Feb. 6, 2017
Monday



Grade 8

Study!

1) Gail just received her pay of \$1800. She pays one-ninth to the hydro company and two-fifths for rent.

a) How much does she pay to the hydro? $\frac{1}{9}$ of 1800 = Hydro
 same as $1800 \div 9 \rightarrow$ \$ 200 is for hydro

b) How much does she have left of her pay after the bills are paid?

Rent $\frac{2}{5}$ of 1800

$$\begin{array}{l} \times 2 \left(\frac{1}{5} \text{ of } 1800 = 360 \right. \\ \left. \frac{2}{5} \text{ of } 1800 = 720 \right) \times 2 \end{array}$$

$$\begin{array}{r} \$ 720 \text{ Rent} \\ 200 \text{ Hydro} \\ \hline \$ 920 \end{array}$$

$$\begin{array}{r} \$ 1800 \\ - \$ 920 \\ \hline \end{array}$$

\$ 880

Left for living

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3 a) $\frac{2}{3} + \frac{1}{4}$
 $\frac{8}{12} + \frac{3}{12} = \frac{11}{12}$
 cups of liquid

b) $\frac{1}{3}$ of 165

Homework Solutions

$\frac{1}{3} \times 165 = \frac{165}{3} = 55$
 $\frac{1}{3}$ of 150 = 50
 $\frac{1}{3}$ of 15 = 5
55 silver caps

c) $\frac{3}{4} - \frac{3}{8}$
 $\frac{6}{8} - \frac{3}{8} = \frac{3}{8}$
 She need $\frac{3}{8}$ more

d) $\frac{5}{12} \times 2 = \frac{10}{12}$ was shared

4 $\frac{2}{3} + \frac{1}{4}$
 $\frac{8}{12} + \frac{3}{12} = \frac{11}{12}$

He had $\frac{11}{12}$ cans of paint.

5. $5 \div \frac{1}{8}$
 $5 \times \frac{8}{1} = 40$

The team scored 40 goals.

$\frac{1}{8}$ of Total = 5
 $\frac{1}{8} \times \text{Total} = 5$
 $\frac{1}{8}$ is 5
 so $\frac{8}{8} = 8 \times 5 = 40$

6. morning + afternoon

$\frac{1}{6} + \frac{1}{3}$
 $\frac{1}{6} + \frac{2}{6} = \frac{3}{6}$ or $\frac{1}{2}$

$\frac{1}{2}$ attended in the evening

b) $\frac{1}{2}$ of 30

$\frac{1}{2} \times 30 = \frac{30}{2}$

= 15 parents attended in the evening

$$7. \frac{3}{4} - \frac{1}{6}$$

$$\frac{9}{12} - \frac{2}{12} = \frac{7}{12}$$

Her lunch was $\frac{7}{12}$ of an hour.

Homework
Solutions

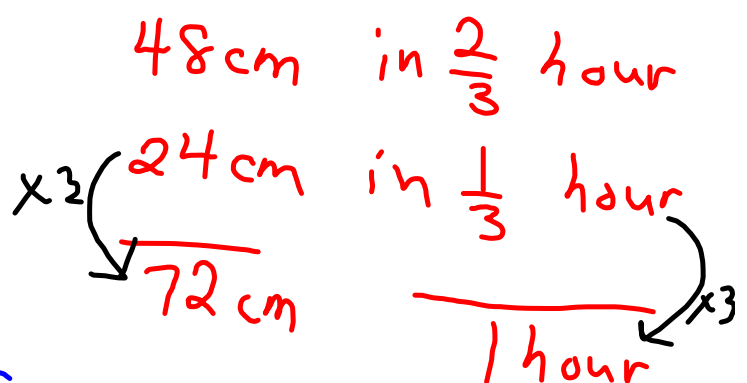
$$8. \frac{2}{5} \text{ of } 2400$$

$$\frac{2}{5} \times 2400 = \frac{4800}{5} = 960$$

\$960 is paid for rent

$$9. 48 \div \frac{2}{3}$$

$$48 \times \frac{3}{2} = \frac{144}{2} = 72 \text{ cm in one hour}$$



$$10 \quad \frac{1}{6} + \frac{1}{4} + \frac{3}{8}$$

$$\frac{4}{24} + \frac{6}{24} + \frac{9}{24} = \frac{19}{24}$$

$$\text{Rock} \quad \frac{24}{24} - \frac{19}{24} = \frac{5}{24}$$

Homework

Solutions

$$11. \quad \frac{3}{8} + \frac{3}{8} + \frac{3}{8} + \frac{5}{6}$$

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

not much remains,
maybe $\frac{1}{4}$

$$b) \quad \frac{3}{8} \times 3 = \frac{9}{8} \text{ or } 1 \frac{1}{8}$$

$$c) \quad \frac{19}{8} + \frac{5}{6}$$

$$\frac{27}{24} + \frac{20}{24} = \frac{47}{24}$$

$$d) \quad 2 \frac{1}{2} - \frac{47}{24}$$

$$2 \frac{12}{24} - \frac{47}{24}$$

$$\frac{60}{24} - \frac{47}{24} = \frac{13}{24}$$

Test question which is largest sum

a) $\frac{1}{4} + \frac{2}{3}$

$\frac{1}{4}$
small
decim
0.25

$\frac{2}{3}$
0.6

b) $\frac{7}{6} + \frac{5}{4}$

$\frac{7}{6}$ $\frac{5}{4}$
larger
than
1

c) $\frac{5}{6} + \frac{12}{13}$

$\frac{5}{6}$
smaller
than
1
but
close
to
1

$\frac{12}{13}$
smaller
than 1
close

largest
sum

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Homework

Solutions

12. $\frac{1}{4}$ of $\frac{1}{3}$

$$\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$$

They $\frac{1}{12}$ on the first day

13. $\frac{4}{5}$ of the bottle was left

$$\frac{3}{4} \times \frac{4}{5} = \frac{12}{20} \text{ or } \frac{3}{5}$$

The calf had $\frac{3}{5}$ of the bottle.

14. $2\frac{5}{6} \div 4$

$$\frac{17}{6} \times \frac{1}{4} = \frac{17}{24}$$

loaves for each type
of sandwich.

Order of Operations with Fractions

B - Brackets

E - Exponents

DM - Multiplication and Division in the order they occur

AS - Addition and Subtraction in the order they occur common denominators

Examples:

$$\begin{aligned}
 & \text{(a) } \frac{5}{16} - \frac{3}{8} \times \frac{2}{3} \\
 & = \frac{5}{16} - \frac{6}{24} \\
 & = \frac{5}{16} - \frac{1 \times 4}{4 \times 4} \quad \text{Reduce} \\
 & \quad \text{Need C.D} \\
 & = \frac{5}{16} - \frac{4}{16} \\
 & = \frac{1}{16}
 \end{aligned}$$

$$\begin{aligned}
 & \text{(b) } \frac{3}{4} - \frac{2}{3} \div \frac{4}{5} \times \left(\frac{1}{8} + \frac{1}{8} \right) \\
 & \quad \text{Need C.D} \\
 & = \frac{3}{4} - \frac{2}{3} \div \frac{4}{5} \times \left(\frac{1}{8} + \frac{2}{8} \right) \\
 & = \frac{3}{4} - \frac{2}{3} \div \frac{4}{5} \times \frac{3}{8} \\
 & \quad \text{Flipped} \\
 & \quad \text{Flipped} \\
 & = \frac{3}{4} - \frac{2}{3} \times \frac{5}{4} \times \frac{3}{8} \\
 & = \frac{3}{4} - \frac{10}{12} \times \frac{3}{8} \\
 & = \frac{3}{4} - \frac{30 \div 6}{96 \div 6} \\
 & \quad \text{Reduce} \\
 & = \frac{3 \times 4}{4 \times 4} - \frac{5}{16} \\
 & \quad \text{Need C.D} \\
 & = \frac{12}{16} - \frac{5}{16} \\
 & = \frac{7}{16}
 \end{aligned}$$

Order of Operations with Fractions

B - Brackets

E - Exponents

DM - Multiplication and Division in the order they occur

AS - Addition and Subtraction in the order they occur common denominators

Examples:

(a) $\frac{5}{16} - \frac{3}{8} \times \frac{2}{3}$

$$\begin{aligned} &\frac{5}{16} - \frac{6}{24} \\ &\frac{5}{16} - \frac{1}{4} \\ &\frac{5}{16} - \frac{4}{16} \\ &\frac{1}{16} \end{aligned}$$

(b) $\frac{3}{4} - \frac{2}{3} \div \frac{4}{5} \times (\frac{1}{8} + \frac{1}{4})$

$$\begin{aligned} &\frac{3}{4} - \frac{2}{3} \div \frac{4}{5} \times (\frac{1}{8} + \frac{2}{8}) \\ &\frac{3}{4} - \frac{2}{3} \times \frac{5}{4} \times \frac{3}{8} \\ &\frac{3}{4} - \frac{10}{12} \times \frac{3}{8} \\ &\frac{3}{4} - \frac{30}{96} \quad \text{or} \quad \frac{3}{4} - \frac{5}{16} \\ &\frac{72}{96} - \frac{30}{96} \quad \frac{12}{16} - \frac{5}{16} \\ &\frac{42}{96} = \frac{7}{16} \quad \frac{7}{16} \end{aligned}$$

Class/Homework

Test Wednesday, Feb. 8

pg. 155 #4(do it out as well), #5 to #6 (Show Work)



pg 155

$$4 \ a) \ \frac{1}{3} \times \left(\frac{7}{8} - \frac{3}{4} \right)$$

$$\frac{1}{3} \times \left(\frac{7}{8} - \frac{6}{8} \right)$$

$$\frac{1}{3} \times \frac{1}{8} = \frac{1}{24}$$

$$b) \ \frac{7}{8} \div \left(\frac{1}{3} \times \frac{1}{8} \right)$$

$$\frac{7}{8} \div \frac{1}{24}$$

$$\frac{7}{8} \times \frac{24}{1} = 21$$



$$c) \ \frac{5}{9} \times \left(\frac{3}{5} \div \frac{1}{6} \right)$$

$$\frac{5}{9} \times \left(\frac{3}{5} \times \frac{6}{1} \right)$$

$$\frac{5}{9} \times \frac{18}{5} = \frac{270}{45}$$

$$= 6$$

$$d) \ \left(\frac{5}{3} + \frac{7}{12} \right) \times \frac{4}{9}$$

$$\left(\frac{20}{12} + \frac{7}{12} \right) \times \frac{4}{9}$$

$$\frac{27}{12} \times \frac{4}{9} = \frac{108}{108} = 1$$

(or $\frac{108}{108} = 1$)

$$5. \ \frac{5}{8} + \frac{2}{3} \times \frac{1}{2}$$

$$\frac{5}{8} + \frac{2}{6}$$

$$\frac{5}{8} + \frac{2}{6} = \frac{16}{24}$$

Raj was correct.

$$\begin{aligned}
 \text{a) } & \frac{1}{2} \times \frac{3}{5} + \frac{1}{4} \\
 & \frac{3}{10} + \frac{1}{4} \\
 & \frac{6}{20} + \frac{5}{20} = \frac{11}{20}
 \end{aligned}$$

$$\begin{aligned}
 \text{b) } & \frac{2}{3} + \frac{5}{6} \div \frac{1}{2} \\
 & \frac{2}{3} + \frac{5}{6} \times \frac{2}{1} \\
 & \frac{2}{3} + \frac{10}{6} \\
 & \frac{4}{6} + \frac{10}{6} = \frac{14}{6} \text{ or } \frac{7}{3}
 \end{aligned}$$

$$\begin{aligned}
 \text{c) } & \frac{4}{5} \div \frac{7}{10} + \frac{1}{3} \\
 & \frac{4}{5} \times \frac{10}{7} + \frac{1}{3} \\
 & \frac{40}{35} + \frac{1}{3} \\
 & \frac{24}{21} + \frac{7}{21} = \frac{31}{21}
 \end{aligned}$$

$$\begin{aligned}
 \text{d) } & \frac{1}{4} \times \left(\frac{11}{12} - \frac{5}{6} \right) \\
 & \frac{1}{4} \times \left(\frac{11}{12} - \frac{10}{12} \right) \\
 & \frac{1}{4} \times \frac{1}{12} = \frac{1}{48}
 \end{aligned}$$

$$\begin{aligned}
 \text{e) } & \frac{1}{2} \times \left(\frac{4}{5} \div \frac{3}{10} \right) \\
 & \frac{1}{2} \times \left(\frac{4}{5} \times \frac{10}{3} \right) \\
 & \frac{1}{2} \times \frac{40}{3} = \frac{40}{30} \\
 & = \frac{4}{3}
 \end{aligned}$$

$$\begin{aligned}
 \text{f) } & \left(\frac{3}{5} + \frac{7}{15} \right) \times \frac{5}{6} \\
 & \left(\frac{9}{15} + \frac{7}{15} \right) \times \frac{5}{6} \\
 & \frac{16}{15} \times \frac{5}{6} = \frac{80}{90} \\
 & = \frac{8}{9}
 \end{aligned}$$

Discuss pages 156-157 Checking and Reflecting

Chris's sister used
 $\frac{1}{4}$ of stamps left on roll
 $\frac{1}{4} \times \frac{1}{3} = \frac{1}{12}$

Stamps used

$$\frac{1}{12} + \frac{2}{3}$$
$$\frac{1}{12} + \frac{8}{12} = \frac{9}{12} = \frac{3}{4}$$

Stamps left

$$1 - \frac{3}{4} = \frac{1}{4} \text{ of stamps left}$$