



Grade 8

Copy this out and answer

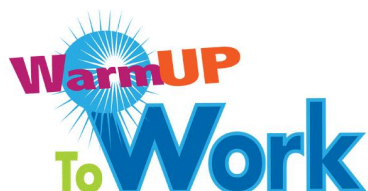
Dec. 13

$$\begin{aligned}
 & 1) 2\frac{7}{8} \div 1\frac{1}{5} \\
 & \frac{23}{8} \div \frac{6}{5} \quad \text{Fl: and mult} \\
 & = \frac{23}{8} \times \frac{5}{6} \\
 & = \frac{115}{48} \Rightarrow 2\frac{19}{48}
 \end{aligned}$$

2) A car can travel 66 km in $\frac{3}{4}$ of an hour. How far will it travel in 1 hour?

$$\begin{aligned}
 & \frac{3}{4} \text{ of total} = 66 \text{ km} \\
 & \quad \downarrow \div 3 \\
 & \frac{1}{4} \text{ of total} = 22 \text{ km} \\
 & \quad \downarrow \times 4 \\
 & \frac{4}{4} \text{ of total} = 88 \text{ km}
 \end{aligned}$$

$$\begin{aligned}
 & \frac{3}{4} \times y = 66 \\
 & 4 \times \frac{3y}{4} = 66 \times 4 \\
 & 3y = 264 \\
 & \quad \div 3 \\
 & y = 88 \text{ km}
 \end{aligned}$$

Grade 8

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?

$$\frac{1}{9} \text{ of } 1800 = \text{hydro}$$

$$\frac{1800}{9} = \$200$$

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

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

$$\frac{3600}{5} = \text{Rent}$$

$$\$720 = \text{Rent}$$

$$1800 - \overset{\text{hydro}}{200} - \overset{\text{Rent}}{720}$$

$$= \$880$$

is left

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

$\frac{1}{3}$ of cars
 b) $\frac{1}{3}$ of 165
 $\frac{1}{3} \times 165 = \frac{165}{3} = 55$ Silver
 $\frac{1}{3}$ of 150 = 50
 $\frac{1}{3}$ of 15 = 5
 55 silver cars

Homework Solutions

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

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

People
 $P1 + P2$
 $\frac{5}{12} + \frac{5}{12} = \frac{10}{12} = \frac{5}{6}$

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

6) Morning	$\frac{1}{6}$	}	$\frac{1}{6} + \frac{1}{3}$ $\frac{1}{6} + \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$
afternoon	$\frac{1}{3}$		
a) evening	?		$\frac{6}{6} - \frac{3}{6} = \frac{3}{6} = \frac{1}{2}$ Total

$\frac{1}{2}$
 only
 $\frac{1}{2}$
 left

b) after noon
 $\frac{1}{3}$ of 30 = 10
 evening $\frac{1}{2}$ of 30 = 15
 morning $\frac{1}{6}$ of 30 = 5

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

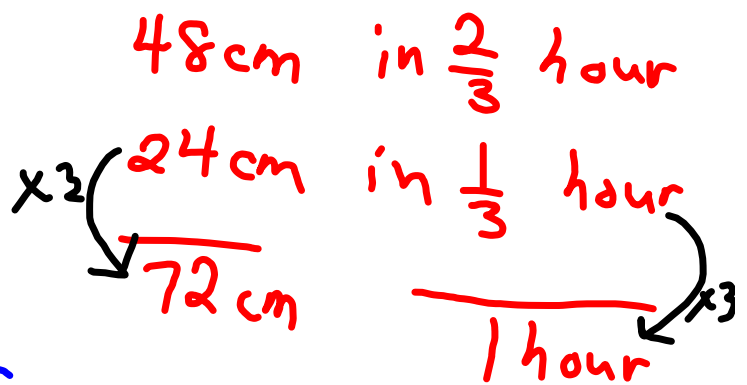
8. $\frac{2}{5}$ of 2400

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

\$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



$$\begin{array}{l} \frac{2}{3} \text{ of hour} = 48 \text{ cm} \\ \div 2 \\ \frac{1}{3} \text{ of hour} = 24 \text{ cm} \\ \times 3 \\ \frac{3}{3} \text{ of hour} = 72 \text{ cm} \end{array}$$

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

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

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

Homework

Solutions

$\frac{1}{6}$ of 72 = 12 ^{Dance}

$\frac{1}{4}$ of 72 = 18 ^{hip hop}

$\frac{3}{8}$ of 72 = 27 ^{Reggae}

left 57

72 - 57 =

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

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

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

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

c) $\frac{19}{24} + \frac{5}{6}$

$$\frac{19}{24} + \frac{20}{24} = \frac{47}{24}$$

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

$$2\frac{12}{24} - \frac{47}{24} = \frac{13}{24}$$

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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

~~X~~ - Exponents

DM - Multiplication and Division in the order they occur

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

Examples:

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

$$\frac{5}{16} - \frac{6 \div 6}{24 \div 6}$$

$$\frac{5}{16} - \frac{1 \times 4}{4 \times 4}$$

$$\frac{5}{16} - \frac{4}{16}$$

$$\frac{1}{16}$$

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

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

$$\frac{3}{4} - \frac{2}{3} \div \frac{4}{5} \times \frac{3}{8}$$

Flip x

$$\frac{3}{4} - \frac{2}{3} \times \frac{5}{4} \times \frac{3}{8}$$

$$\frac{3}{4} - \frac{10}{12} \times \frac{3}{8}$$

↓
Reduce

$$\frac{3}{4} - \frac{5}{6} \times \frac{3}{8}$$

$$\frac{3}{4} - \frac{15}{48}$$

÷ 3
÷ 3

↓ Reduce

$$\frac{4 \times 3}{4 \times 4} - \frac{5}{16}$$

$$\frac{12}{16} - \frac{5}{16}$$

$$\frac{7}{16}$$

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 Tuesday Dec. 20

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

$$5. \ \frac{10}{8} + \frac{9}{12} + \frac{3}{2} \times \frac{1}{2}$$

$$\frac{10}{8} + \frac{9}{12} + \frac{3}{4}$$

$$\frac{10}{8} + \frac{9}{12} = \frac{16}{24}$$

Raj was correct.

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

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

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

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

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

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

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

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