FRACTIONS 2

Name:……

1) How much is: (1 point)

a) A quarter of $\frac{1}{4}$?

b) Half of $\frac{1}{5}$?

c) A fifth of $\frac{5}{8}$?

d) A third of $\frac{3}{5}$?

2)Calculate and simplify: (5 points)

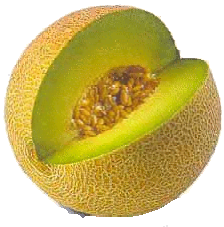
a) $\frac{1}{15}-\frac{9}{10}+1=$

b) $\frac{2}{3}-\left(\frac{1}{2}+\frac{2}{3}\right)\times 2=$

c) $\frac{2}{5}\times\frac{6}{4}\times\frac{7}{10}\times\frac{2}{14}=$

d) $\frac{3}{7}\div\frac{5}{14}-\frac{4}{5}\div\frac{3}{2}=$

e) $\left(\frac{1}{2}+\frac{1}{3}\right)\times\left(\frac{1}{2}-\frac{1}{5}\right)=$



3) A man had ninety melons. He gave two fifths to his father and 2/15 to a friend. How many melons did he have left? (1 point)

4) Elisabeth buys 4/6 lbs of grapes and 5/7 lbs of oranges. Does she buy more grapes or more oranges? How many lbs of fruit does she buy in total? (1 point)

5)A teacher has marked 2/7 of his exams with a red marker and 1/4 with a blue one. If he still has 52 exams to mark, how many exams did he start with? (1 point)

6) In a 5600 m^2 farm, they grow maize, onions and potatoes. They use three eighths of the farm for growing maize and two fifths of the remainder for growing onions, how many square metres do they use for growing potatoes? (1 point)

SOLUTIONS

1) How much is:

a) A quarter of $\frac{1}{4}$? $\frac{1}{4}\cdot\frac{1}{4}=\frac{1}{16}$

b) Half of $\frac{1}{5}$? $\frac{1}{2}\cdot\frac{1}{5}=\frac{1}{10}$

c) A fifth of $\frac{5}{8}$? $\frac{1}{5}\cdot\frac{5}{8}=\frac{1}{8}$

d) A third of $\frac{3}{5}$? $\frac{1}{3}\cdot\frac{3}{5}=\frac{1}{5}$

2)Calculate and simplify:

a) $\frac{1}{15}-\frac{9}{10}+1=\frac{2}{30}-\frac{27}{30}+\frac{30}{30}=\frac{5}{30}=\frac{1}{6}$

b) $\frac{2}{3}-\left(\frac{1}{2}+\frac{2}{3}\right)\times 2=\frac{2}{3}-\left(\frac{3}{6}+\frac{4}{6}\right)\times 2=\frac{2}{3}-\frac{7}{6}\times 2=\frac{2}{3}-\frac{7}{3}=-\frac{5}{3}$

c) $\frac{2}{5}\times\frac{6}{4}\times\frac{7}{10}\times\frac{2}{14}=\frac{2\times 2\times 3\times 7\times 2}{5\times 2\times 2\times 2\times 5\times 2\times 7}=\frac{3}{50}$

d) $\frac{3}{7}\div\frac{5}{14}-\frac{4}{5}\div\frac{3}{2}=\frac{3\times 14}{5\times 7}-\frac{4\times 2}{5\times 3}=\frac{6}{5}-\frac{8}{15}=\frac{18}{15}-\frac{8}{15}=\frac{10}{15}=\frac{2}{3}$

e) $\left(\frac{1}{2}+\frac{1}{3}\right)\times\left(\frac{1}{2}-\frac{1}{5}\right)=\left(\frac{3}{6}+\frac{2}{6}\right)\times\left(\frac{5}{10}-\frac{2}{10}\right)=\frac{5}{6}\times\frac{3}{10}=\frac{5\times 3}{6\times 10}=\frac{1}{4}$

3) A man had ninety melons. He gave two fifths to his father and 2/15 to a friend. How many melons did he have left?

$\frac{2}{5}+\frac{2}{15}=\frac{6}{15}+\frac{2}{15}=\frac{8}{15}$ he have left $\frac{7}{15}$ of $90=\frac{7\times 90}{15}=42$ melons

4) Elisabeth buys 4/6 lbs of grapes and 5/7 lbs of oranges. Does she buy more grapes or more oranges? How many lbs of fruit does she buy in total?

$\frac{4}{6},\frac{5}{7}\rightarrow\frac{28}{42},\frac{30}{42}\Rightarrow\frac{5}{7}>\frac{4}{6}$ She buys more oranges

$\frac{4}{6}+\frac{5}{7}=\frac{28}{42}+\frac{30}{42}=\frac{58}{42}=\frac{29}{21}$ She buys in total $\frac{29}{21}$ lbs of fruit

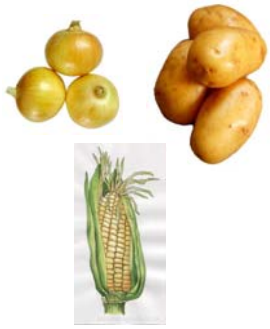
5)A teacher has marked 2/7 of his exams with a red marker and 1/4 with a blue one. If he still has 52 exams to mark, how many exams did he start with?

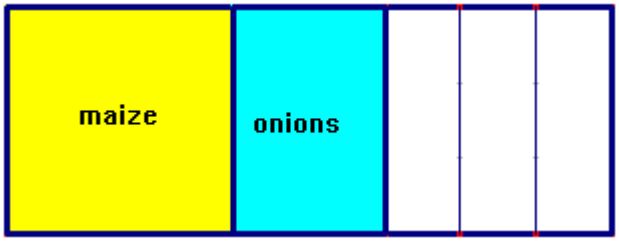
$\frac{2}{7}+\frac{1}{4}=\frac{8}{28}+\frac{7}{28}=\frac{15}{28}$

He still has to mark $1-\frac{15}{28}=\frac{13}{28}$ and they are 52

$52\div 13=4\rightarrow 4\times 28=112$ He started with 112 exams

6) In a 5600 m^2 farm, they grow maize, onions and potatoes. They use three eighths of the farm for growing maize and two fifths of the remainder for growing onions, how many square metres do they use for growing potatoes?





$\frac{3}{8}$ for growing potatoes (see the picture)

$\frac{3}{8}$ of $5600=\frac{3\times 5600}{8}=2100\ m^2$ for growing potatoes