

# October 30, 2014<sup>1st</sup> 2<sup>nd</sup>

## Starter:

If people can only drive on days that the 3 digits on their car's license plate match the system below, what are the 3 digits on the plate of a car that can be driven every day of the week?

Sunday: each digit is less than 6

Monday: the 3-digit number is odd

Tuesday: the sum of the 3 digits is greater than 10

Wednesday: the 3-digit number is a multiple of 3

Thursday: the sum of the 3 digits is less than 15

Friday: at least 2 of the 3 digits are the same

Saturday: the 3-digit number is less than 500



# 10/30 Multiplying Rational Numbers - FRACTIONS!

## Method 1:

Multiply then simplify...

$$\frac{\cancel{5} \cdot \cancel{9}}{\cancel{6} \cdot \cancel{10}} = \frac{45 \div 15}{60 \div 15} = \frac{3}{4}$$



## Method 2:

Simplify then multiply...

$$\frac{\overset{1}{\cancel{5} \div 5} \cdot \overset{3}{\cancel{9} \div 3}}{\underset{2}{\cancel{6} \div 3} \cdot \underset{2}{\cancel{10} \div 5}} = \frac{3}{4}$$

Cross-cancel



Multiply each... use either method.

$$\frac{2}{3} \cdot \frac{1}{4}$$
$$= \frac{2 \div 2}{12 \div 2}$$
$$= \frac{1}{6}$$

$$\frac{-4}{5} \cdot \frac{3}{5}$$
$$= \frac{-12}{25}$$

$$\frac{-3}{4} \cdot \frac{-5}{6}$$
$$= \frac{15 \div 3}{24 \div 3}$$
$$= \frac{5}{8}$$



Multiply...

$$\begin{aligned} & \frac{-4}{1} \cdot \frac{2}{3} \\ &= \frac{-8}{3} \\ &= -2\frac{2}{3} \end{aligned}$$



$$\begin{aligned} & \frac{-9}{10} \cdot \frac{-6}{1} \\ &= \frac{54}{5} \\ &= 10\frac{4}{5} \end{aligned}$$



$$\begin{array}{r} 10 \\ 5 \overline{) 54} \\ \underline{50} \\ 4 \end{array}$$

## Multiplying Mixed Numbers...

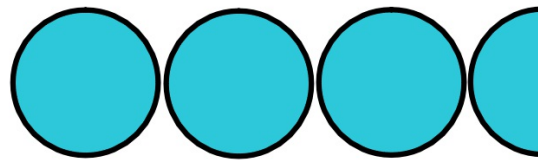
What is always the first step?

Mixed number need to be changed to improper fractions!!

→ Add

$$3\frac{1}{2} = \frac{7}{2}$$


→ Multiply





MAD




Multiply. Write answer in simplest form - ALWAYS!

$$\begin{aligned}
 & \overset{1}{\cancel{23}} \frac{\cancel{4}}{42} \cdot -3\frac{5}{6} \cdot 4\frac{4}{5} \quad \begin{array}{l} 5 \sqrt{92} \\ \underline{-5} \\ 42 \\ \underline{-40} \\ 2 \end{array} \\
 & = -\frac{\cancel{23}}{\cancel{6}} \cdot \frac{\cancel{4}}{5} \\
 & = -\frac{92}{5} = -18\frac{2}{5}
 \end{aligned}$$


$$\begin{aligned}
 & -2\frac{5}{8} \cdot -1\frac{5}{9} \\
 & = -\frac{\cancel{7}}{\cancel{8}} \cdot -\frac{\cancel{14}}{\cancel{9}} \\
 & = \frac{49}{12} = 4\frac{1}{12}
 \end{aligned}$$


$$\left(1\frac{1}{2}\right) \left(1\frac{1}{3}\right) \left(1\frac{5}{6}\right)$$


$$\begin{aligned}
 & \left(-2\frac{1}{4}\right) \left(3\frac{5}{9}\right) \left(-4\frac{1}{6}\right) \\
 & = \frac{\cancel{4}}{\cancel{4}} \cdot \frac{\cancel{32}}{\cancel{9}} \cdot \frac{-25}{\cancel{6}} \\
 & = \frac{200}{6} \div 2 \\
 & = \frac{100}{3} = 33\frac{1}{3}
 \end{aligned}$$


# Homework

Gold WS 7

Due Monday