Name: _____ Completion Date: _____

Math Summer Assignment: Grade 6 Accelerated

- All work should be done directly on this packet. If you need more space to show your work, please use a separate sheet of paper labeling the problem number/letter. Then attach the extra sheets to the back of this packet.

- Every answer should be **circled**.

- Show all of your work. **NO CALCULATORS** may be used when working through this packet.

- You may use your notes from your previous year as well as any educational resource on the internet such as Khan Academy or worksheetworks.com.

- Working with a tutor or a family member on these exact problems is **NOT** permitted. You may ask someone how to solve a similar problem or have someone create practice problems for you.

- This assignment will be collected at the beginning of our first math meeting and will be graded.

- Note: there may be some problems that contain content you have not seen. If this is the case, do your best, make notes, and write down your questions. This may be particularly true at the end of the packet. Examples with step-by-step instructions have been added to help focus your thinking.

Good luck, take risks, and have fun exercising your math brain! ☺

Some helpful information that will be important next year.

Place Value

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones	Decimal	Tenths	Hundredths	Thousandths	Ten Thoudandths	Hundred Thousandths	Millionths
8	7	9	7	4	8	6	.	3	4	9	5	7	6

Rounding 3.235 to the hundredths place.

(The underlined number represents the place value we are rounding.)

1st) When we round decimals, we look at the number to the right of the place value that we are rounding to and circle that number.

Ones	Decimal	Tenths	Hundredths	Thousandths
3	.	2	3	(5)

2nd) When the circled number is 5 or higher we round the underlined number up by one. In this case the three becomes a four.

3.235 rounded to the nearest Hundredth.

3.24

1) Round to the following place values.

A) Round 4.923 to the tenths place.

B) Round 5.098 to the ones place.

C) Round 67.89 to the tens place.

D) Round 152.567 to the hundredths place.

E) Round 0.0096 to the thousandths place.

F) Round 0.0709 to the hundredths place.

Round to the Underlined Place Value

G) 0.92

H) 9.999

I) 6.9512

J) 15.096

2) Use the Order of Operations (PEMDAS or GEMDAS) to answer the following questions. (Review & 6th Grade Topic)

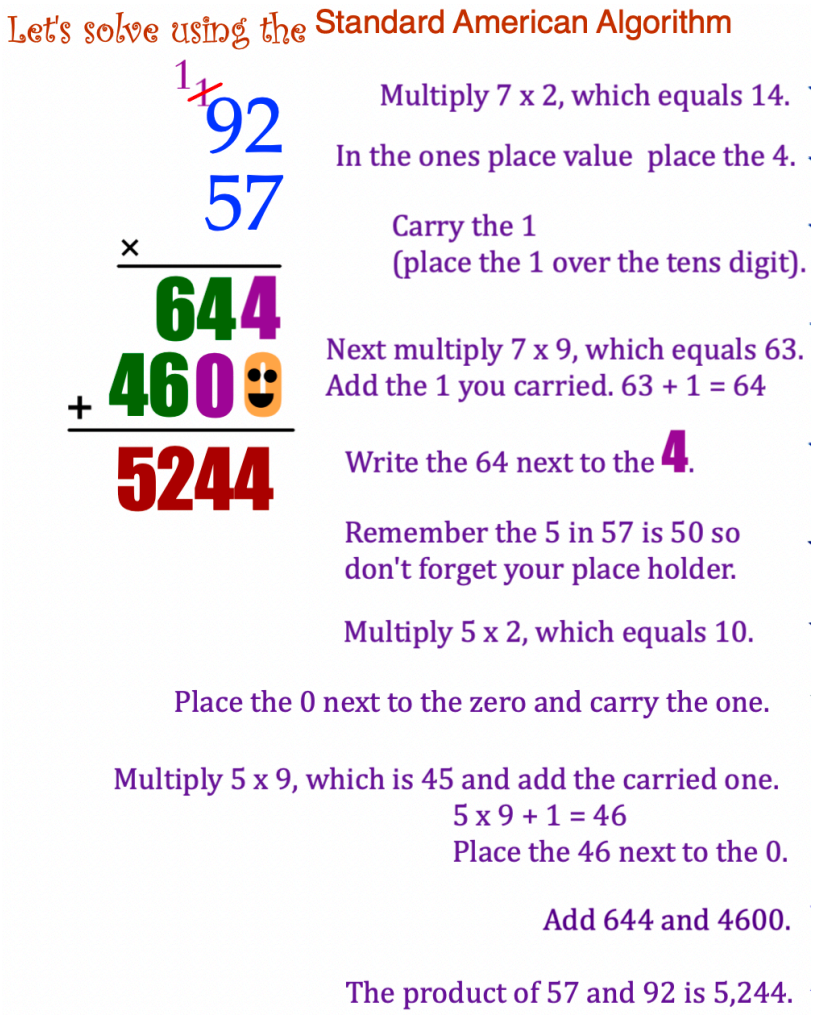
A) $64 \div 4 \times 5$

B) $(5 + 2) \times 9 - 4$

C) $4^2 + 8 \times 6 \div 2$

D) $(3 \times 2 - 2)^2 \div 4 \times 15$

3) Multiplying Whole Numbers. This is the expected method in the 6th grade.



Find each product.

A) 8739 x 9 =

B) 234 x 109 =

C) 984 x 76 =

D) 1567 x 65 =

For E & F, do you notice a pattern in the digits of the second factor?

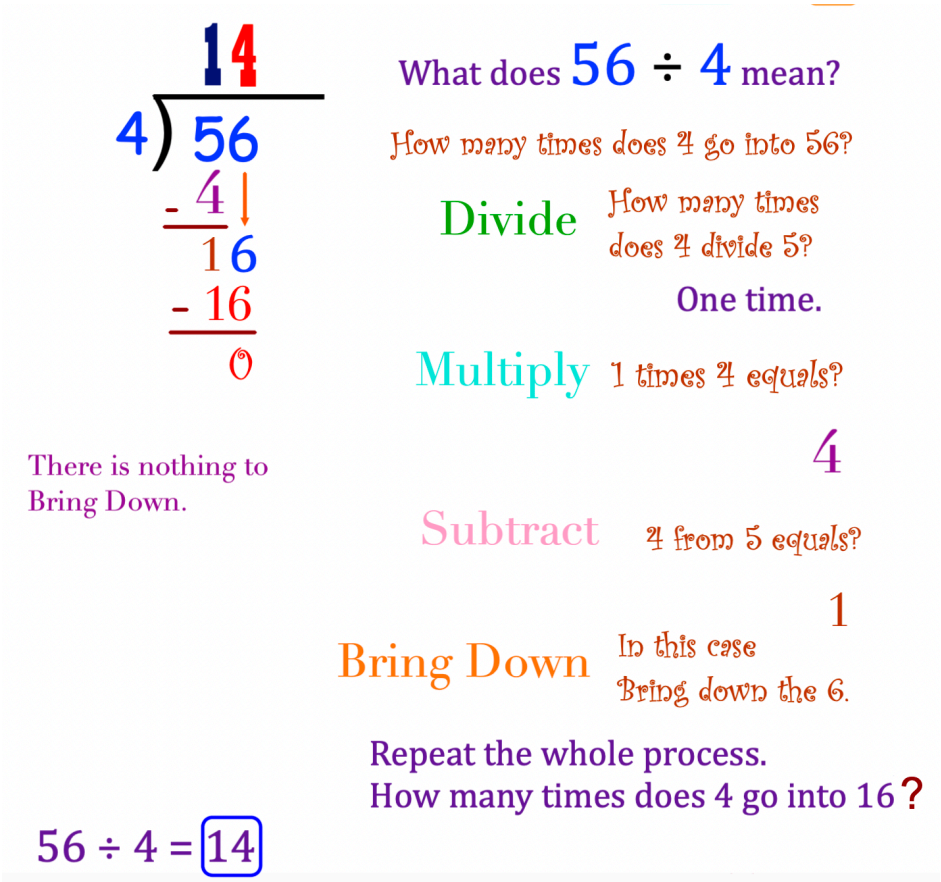
E) 456 x 248 =

F) 3679 x 428 =

G) 4067 x 5097 =

H) 5679 x 1256 =

4) Dividing Whole Numbers using Standard American Algorithm. This is the expected method in the 6th grade.



Find each quotient.

A) 714 ÷ 7 =

B) 7884 ÷ 9 =

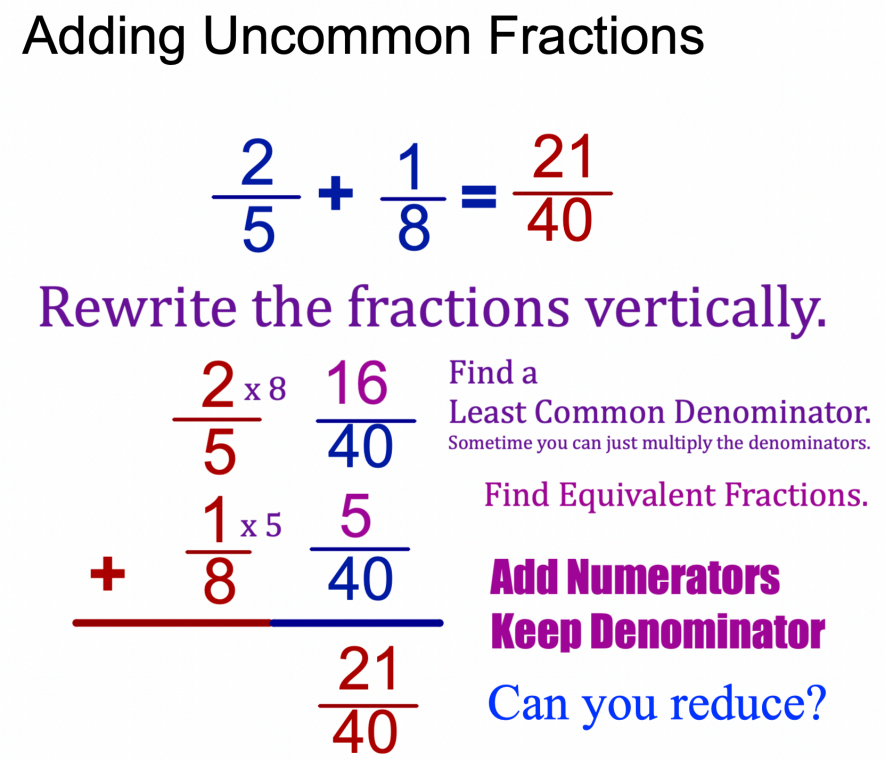
C) 76576 ÷ 8 =

D) 65112 ÷ 12 =

E) 40496 ÷ 16 =

F) 79134 ÷ 22 =

5) Adding Fractions



Solve: Reduce your answers.

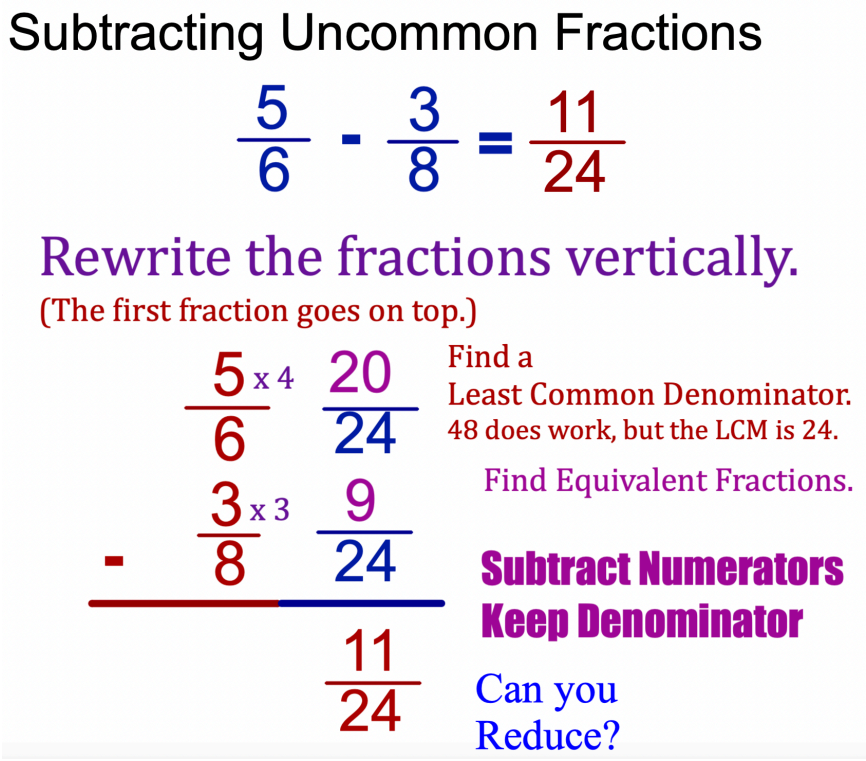
A) $\frac{1}{18} + \frac{5}{6} =$

B) $\frac{1}{18} + \frac{7}{9} =$

C) $\frac{9}{14} + \frac{1}{6} =$

D) $\frac{1}{6} + \frac{1}{21} =$

6) Subtracting Fractions



Solve: Reduce your answers.

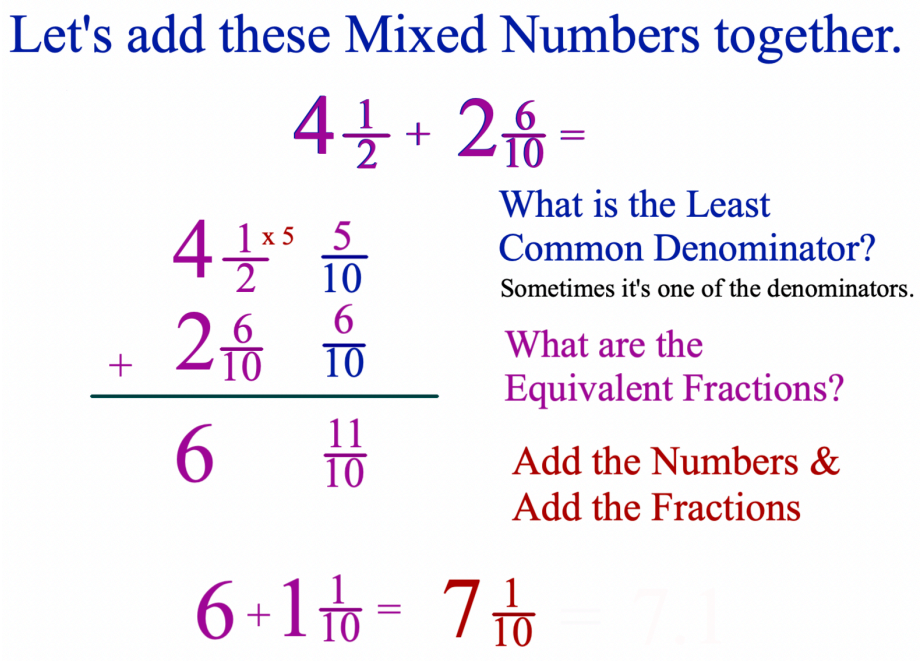
A) $\frac{1}{6} - \frac{1}{18} =$

B) $\frac{19}{30} - \frac{1}{6} =$

C) $\frac{1}{6} - \frac{1}{15} =$

D) $\frac{1}{6} - \frac{1}{14} =$

7) Adding Mixed Numbers



Solve: Reduce your answers. Write your answers as a mixed number.

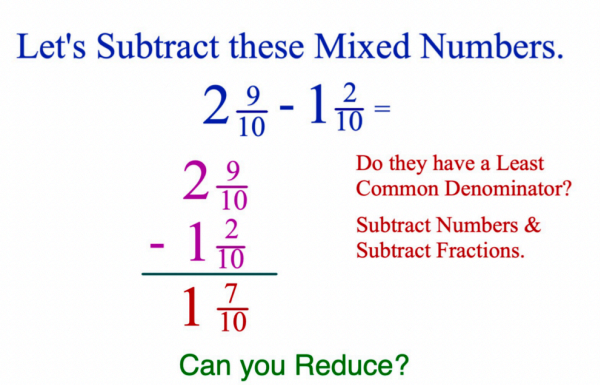
A) $\begin{array}{r} \frac{1}{24} \\ +\ 4\frac{7}{8} \\ \hline \end{array}$

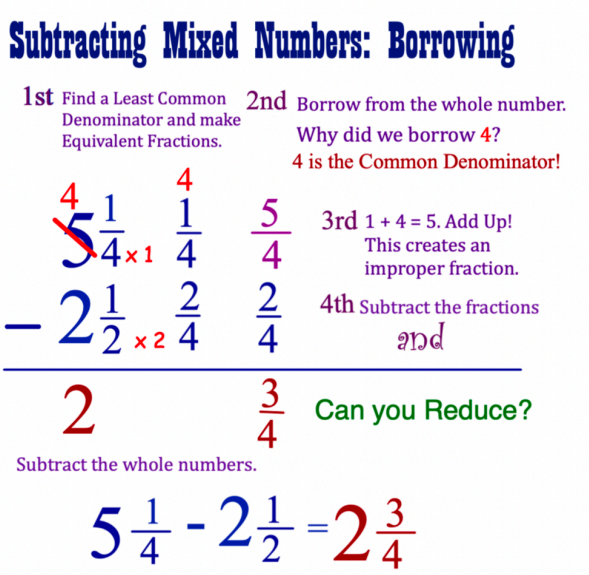
B) $\begin{array}{r} 7\frac{7}{24} \\ +\ 4\frac{3}{8} \\ \hline \end{array}$

C) $\begin{array}{r} 2\frac{1}{6} \\ +\ 6\frac{3}{10} \\ \hline \end{array}$

D) $\begin{array}{r} 4\frac{4}{15} \\ +\ 3\frac{9}{10} \\ \hline \end{array}$

8) Subtracting Mixed Numbers





Solve: Reduce your answers. Write your answers as a mixed number.

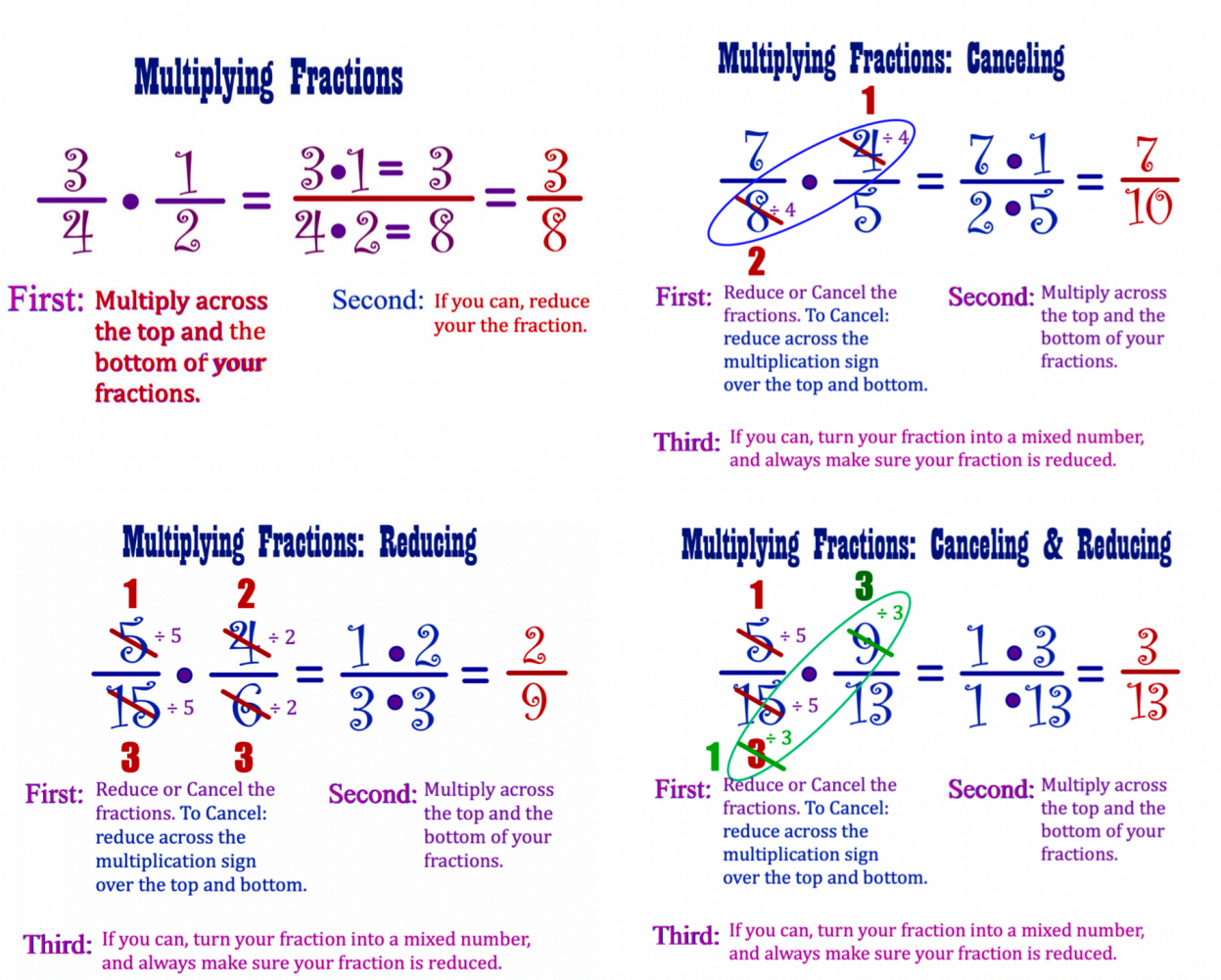
A) $7\frac{7}{20} - 3\frac{1}{4}$

B) $6\frac{1}{6} - 4\frac{1}{15}$

C) $7\frac{7}{12} - 1\frac{5}{6}$

D) $7\frac{5}{6} - 2\frac{14}{15}$

9) Multiplying Fractions



Solve: Reduce your answers. Write your answers as a mixed number or as a proper fraction.

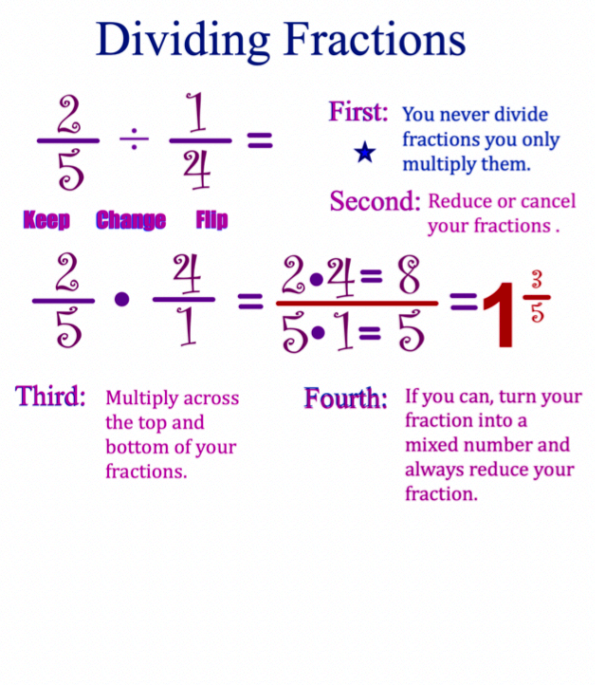
A) $\frac{3}{4} \times \frac{8}{11} =$

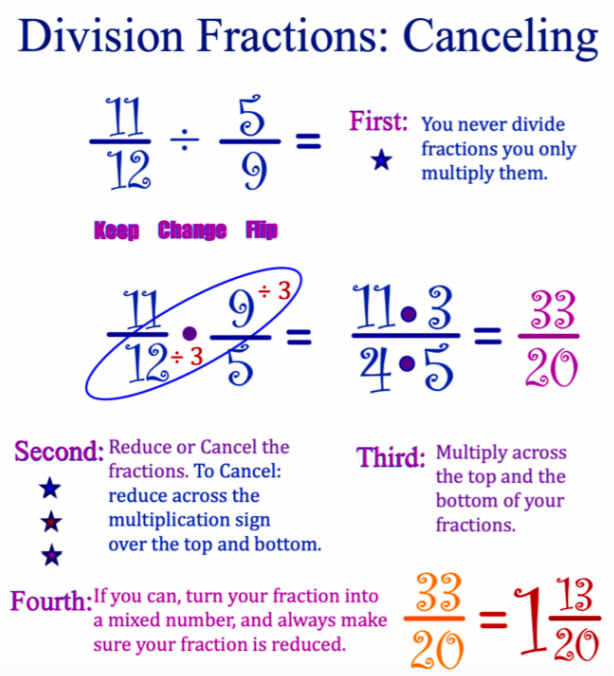
B) $\frac{3}{4} \times \frac{8}{9} =$

C) $\frac{5}{6} \times \frac{9}{10} =$

D) $\frac{2}{3} \times 6 =$

10) Dividing Fractions





Solve: Reduce your answers. Write your answers as a mixed number or as a proper fraction.

A) $\frac{5}{6} \div \frac{1}{5} =$

B) $\frac{5}{8} \div 3 =$

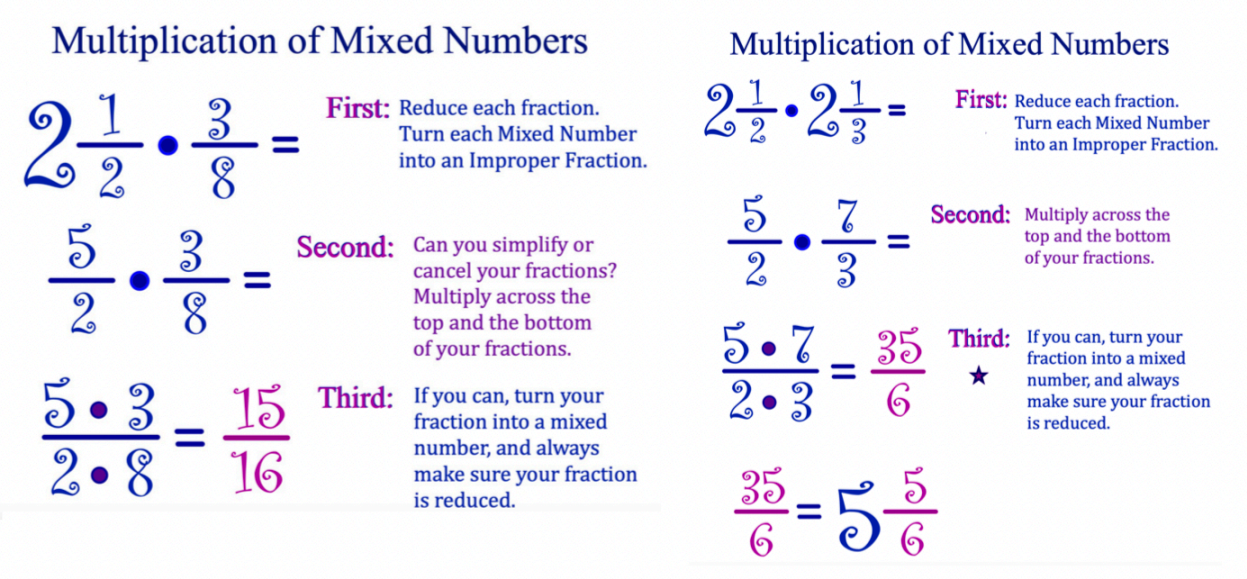
C) $\frac{12}{13} \div \frac{2}{3} =$

D) $\frac{3}{22} \div \frac{3}{4} =$

E) $4 \div \frac{1}{4} =$

F) $\frac{3}{4} \div \frac{9}{22} =$

11) Multiplying Mixed Numbers



Solve: Reduce your answers. Write your answers as a mixed number or as a proper fraction.

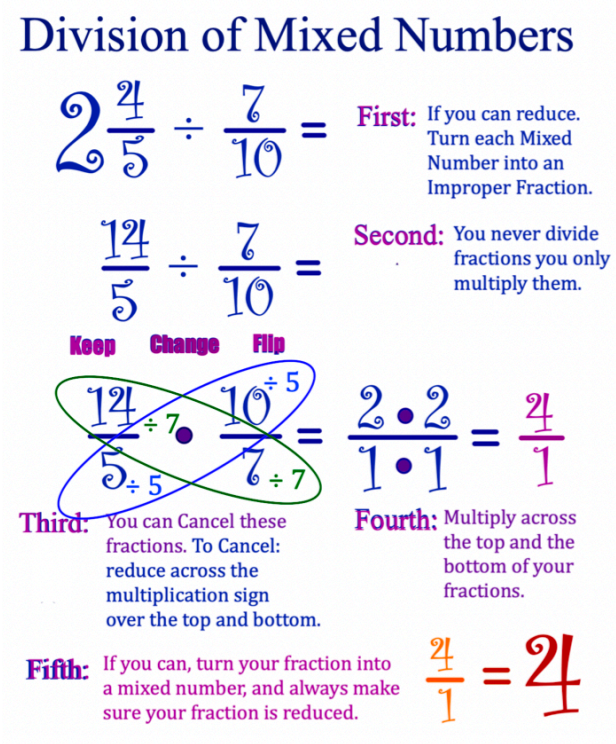
A) $\frac{2}{3} \times 4\frac{1}{17} =$

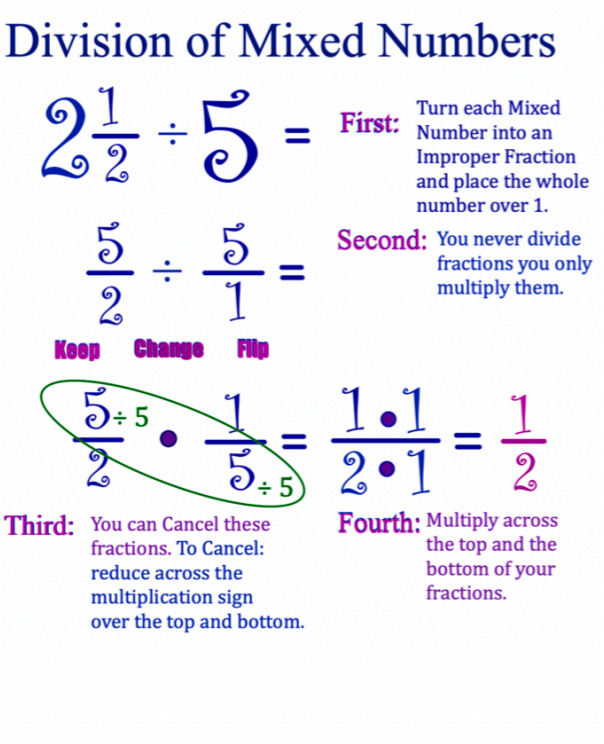
B) $4\frac{1}{6} \times 1\frac{1}{8} =$

C) $1\frac{3}{5} \times 4\frac{13}{18} =$

D) $2\frac{8}{15} \times 4\frac{1}{2} =$

12) Dividing Mixed Numbers (6th Grade Topic)





Solve: Reduce your answers. Write your answers as a mixed number or as a proper fraction.

A) $\frac{7}{8} \div 3\frac{1}{4} =$

B) $1\frac{5}{6} \div 3\frac{9}{10} =$

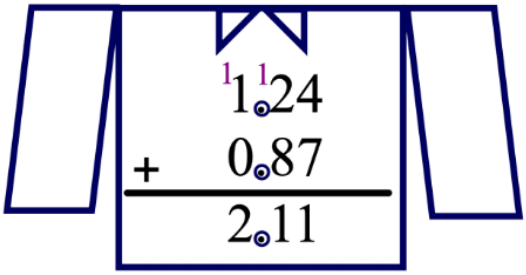
C) $3\frac{1}{15} \div 3\frac{5}{6} =$

D) $3\frac{19}{24} \div 3\frac{1}{2} =$

13) Adding Decimals

When Adding Decimals, you want to line up the decimals by their place value or like buttons on a shirt, then add normally.

$1.24 + 0.87 = 2.11$



Find each sum.

A) 12.49 + 79.05 =

B) 45.71 + 72.209 =

C) 12 + 9.45 =

D) 999.99 + 0.01 =

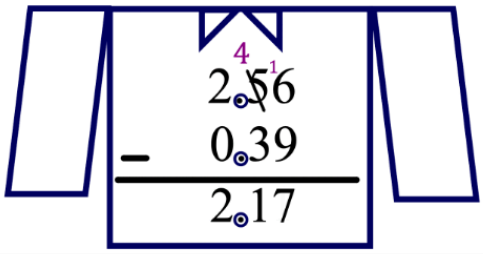
E) 7.8639 + 23.437 =

F) 987.634 + 4013.56 =

14) Subtracting Decimals

When Subtracting Decimals, you want to line up the decimals by their place value or like buttons on a shirt, then subtract normally.

$2.56 - 0.39 = 2.17$



Find each difference.

A) 98.34 – 6.2 =

B) 95.6 – 12.7 =

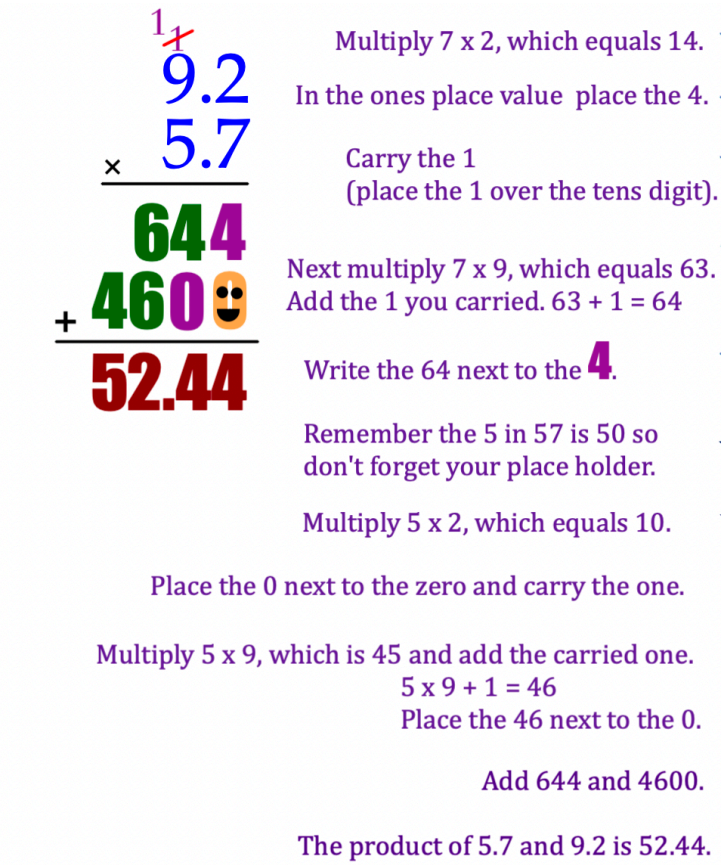
C) 75 – 18.87 =

D) 123.8 – 96.793 =

E) 75.5304 – 6.5495 =

F) 45.7 – 0.8452 =

15) Multiplying Decimals using Standard American Algorithm. This is the expected method in 6th grade.



How do we know that is where the decimal goes?
What is the product of 9 x 6? Does that help?

Find each product.

A) 43.8 x 26 =

B) 34.5 x 9.8 =

C) 4567 x 0.961

D) 7.896 x 23.4 =

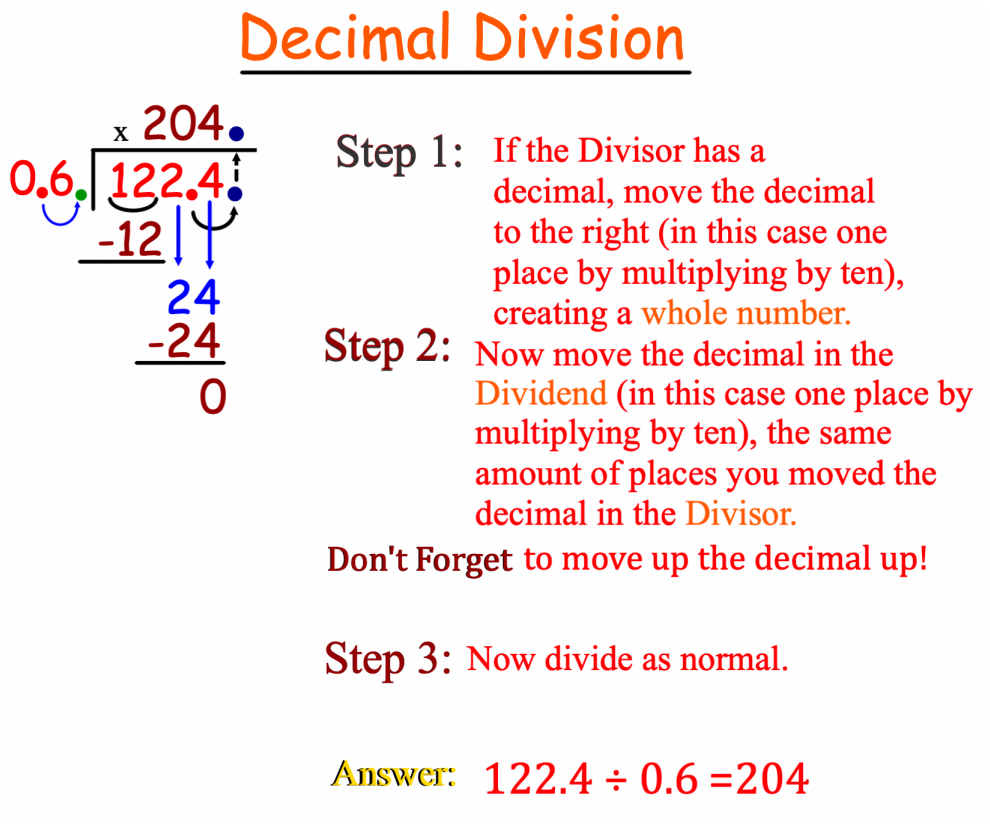
E) 4.87 x 0.049 =

F) 8.09 x 0.723 =

G) 98.71 x 0.8751 =

H) 7.567 x 62.34 =

16) Dividing Decimals using Standard American Algorithm. This is the expected method in 6th grade. (6th Grade Topic)



Find the quotient.

A) 70.758 ÷ 9 =

B) 70.758 ÷ 0.9 =

C) 3.645 ÷ 1.5 =

D) 5.264 ÷ 25 =

E) 0.11484 ÷ 1.2 =

F) 21.425 ÷ 2.5 =

G) 133.17 ÷ 0.23 =

H) 1758.75 ÷ 7.5 =

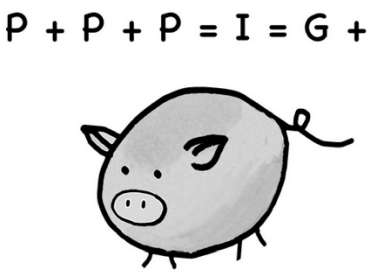
17) Use logical reasoning and the guess and check method.

Directions:
In each puzzle, the letters uniquely represent the SINGLE DIGITS
(0, 1, 2, 3, 4, 5, 6, 7, 8, or 9)
Use the information given to determine which digit each letter represents.

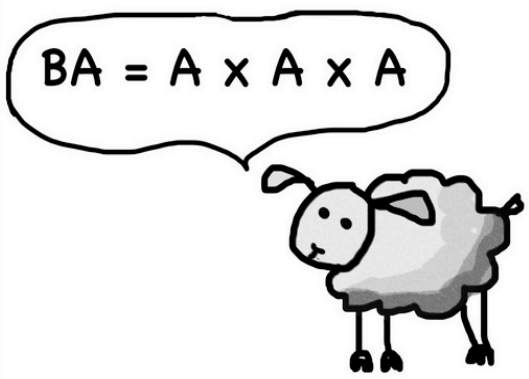
A) Hint: OF in this case does not mean O(times)F. OF is a two-digit number.



B)



C) Hint: BA in this case does not mean B(A). BA is a two-digit number.



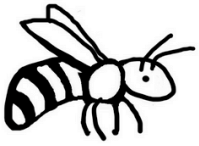
D) CA is a two-digit number & ATT is a three-digit number.

C + CA = ATT



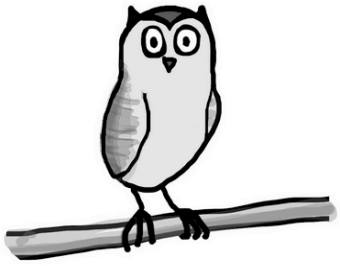
E) ME is a two-digit number & BEE is a three-digit number.

$$\begin{array}{r} ME \\ +ME \\ \hline BEE \end{array}$$

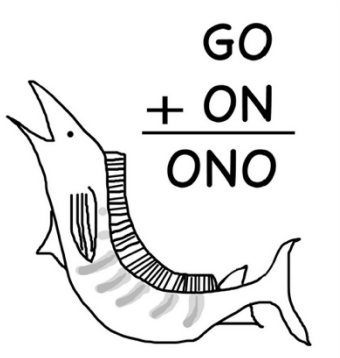


F) HH is a two-digit number & OOT is a three-digit number.

HH + HH = OOT



G) GO & ON are a two-digit numbers & ONO is a three-digit number.

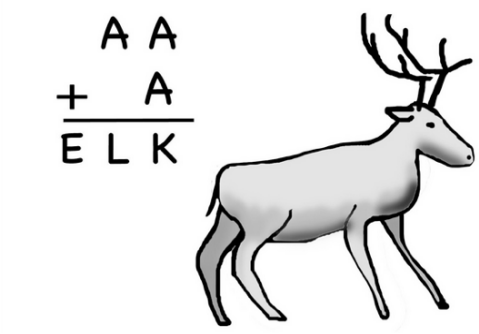


H)



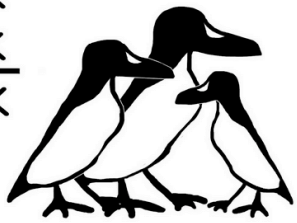
A + A + A + A + A + A + A + A + A + P = E

I) AA is a two-digit number & ELK is a three-digit number.



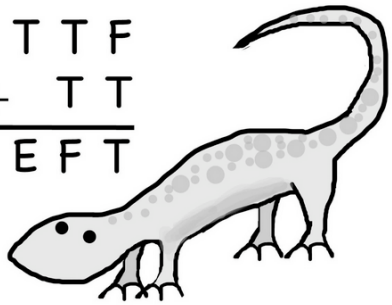
J) UKK and AUK are three-digit numbers & KK is a two-digit number.

$$\begin{array}{r} UKK \\ KK \\ +\quad K \\ \hline AUK \end{array}$$



K) TTF and EFT are three-digit numbers & TT is a two-digit number.

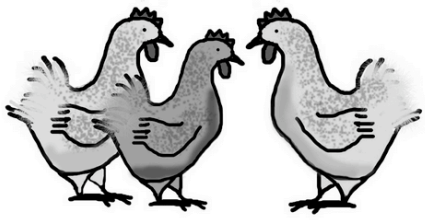
$$\begin{array}{r} TTF \\ +\ TT \\ \hline EFT \end{array}$$



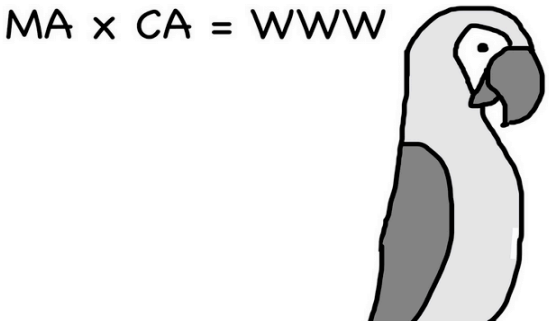
L)

What is the product below?

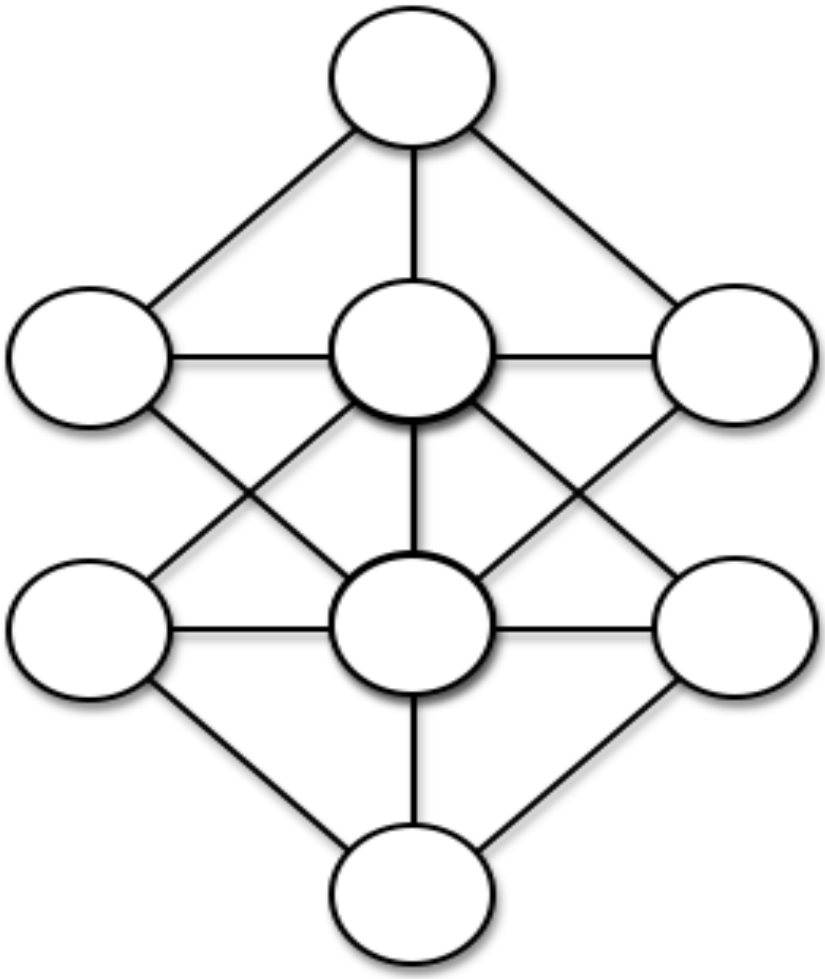
$$C \times H \times I \times C \times K \times E \times N \times P \times O \times T \times P \times I \times E \times S$$



M) MA and CA are two-digit numbers & WWW is a three-digit number.



18) Use the digits 1 through 8 to fill in the circles below. Make sure no line connects consecutive numbers. That means 3 can't join 2 or 4; 6 can't join 5 or 7; and so on.



19) Fill in the missing numbers so that the sum of each row, column, and diagonal is the same. *Don't use any number more than once in each square.*

A. Fill in the numbers 1 through 9 to get a sum of 15.

1	5	
		2

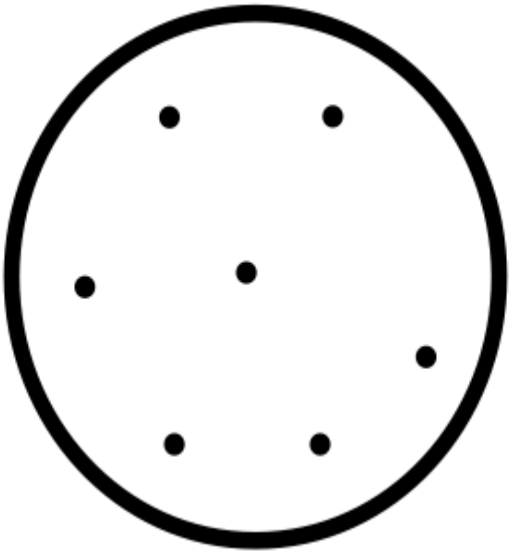
B. Use the numbers 1 through 16 to get a sum of 34.

	3	2	
5			8
9		7	
4			1

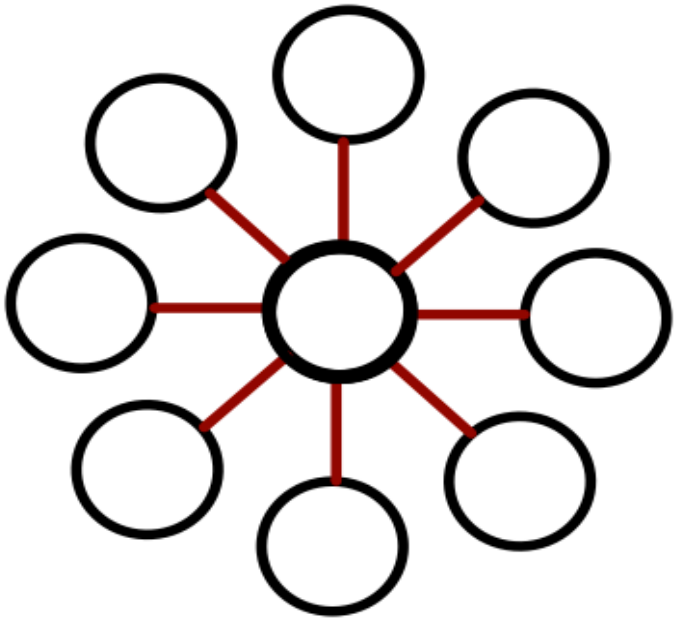
C. Use the number 4 through 19 to get a sum of 46.

4		10	
	16	5	
13	6		
		12	

20) Now see if you can separate each dot in the circle by drawing only three straight lines.



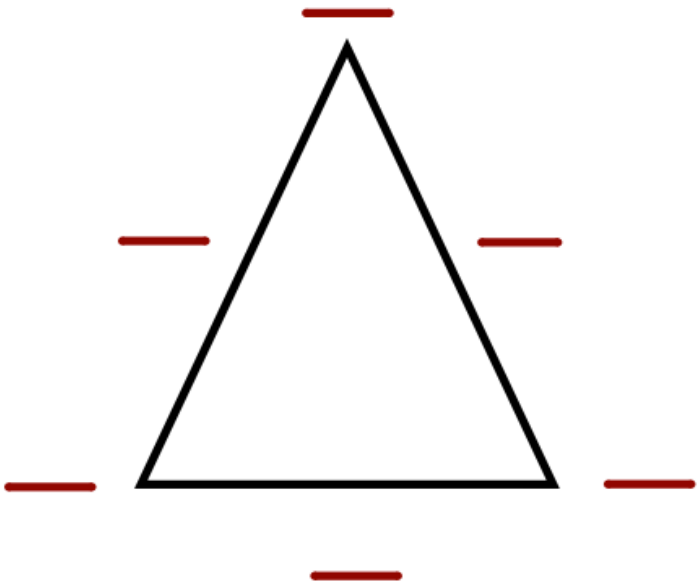
21) Use the numbers 4 through 12. Fill in the circles so that the numbers on each straight line add up to 21. Use each number only once.



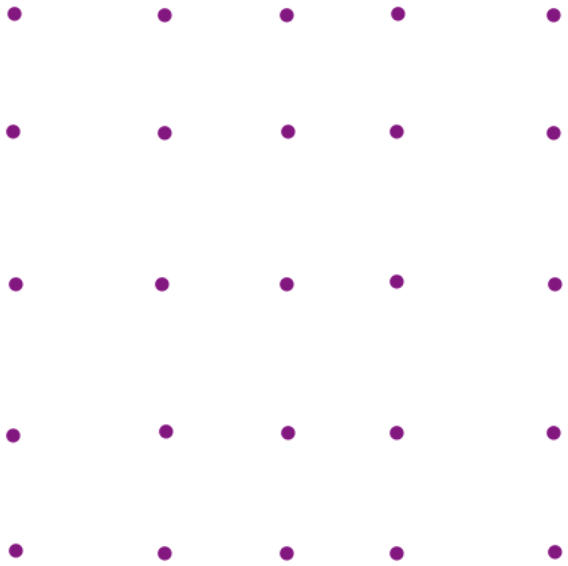
23) In the multiplication problem below, A and B stand for different digits. What numbers to A and B represent?

$$\begin{array}{r} A\ B \\ \times\ B\ A \\ \hline 114 \\ +\ 3040 \\ \hline 3154 \end{array}$$

24) Magic Triangles work a lot like magic squares. The sum of the numbers along each of the three sides of the triangle should be the same. Use the numbers 4 to 9 to solve this magic triangle. The sum of each side should be 20. Only use each number once.

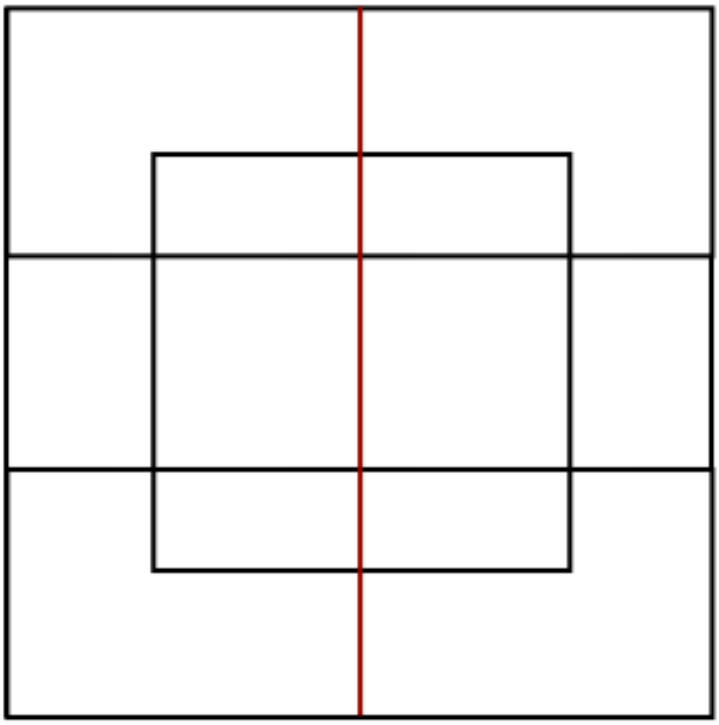


25) Use the grid below to draw a square. Connect 8 dots – no more, no less. Your drawing should trap 5 dots inside the square and put 12 dots outside the square.

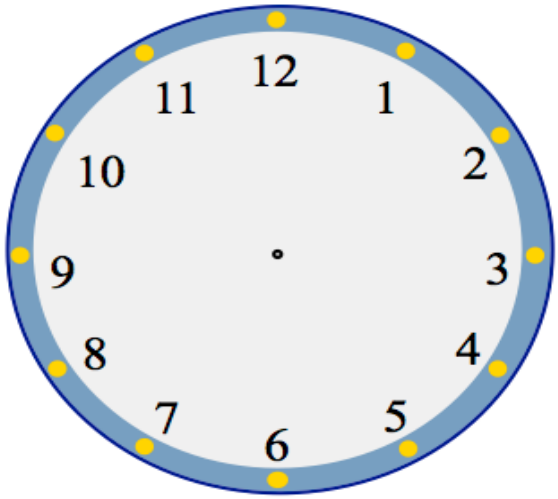


26) Suppose today is Tuesday. What day of the week will it be 100 days from now?

27) How many quadrilaterals can you find in this picture?



28) Use two straight lines to divide this clock into three parts, so that the numbers in each of the parts add up to the same sum.



Challenging Singapore Word Problems

29) A store received $9,085 from the sale of 5 laptops and 8 cell phones. A laptop costs $790 more than a cell phone. Find the total cost of a laptop and a cell phone?

30) Roy spent $\frac{3}{5}$ of his money on a calculator and 2 pens. He had $60 left. The calculator cost 3 times as much as a pen. How much did the calculator cost?

31) (**PERSERVRE)** The admission fees for an exhibition was $6.50 for an adult and $3.50 for a child. A total of $4,500 was collected. 200 more children than adults visited the exhibition. How many adults visited the exhibition?

32) **(REASON)** During a sale, a bookshop sells markers in boxes of 4 for $4.80 or boxes of 7 for $7.20.

(a) What is the minimum amount of money Ms. Kaplan needs to pay if she wants to buy 28 markers?

(b) Mr. Stone also wants to buy 28 markers. He only buys the boxes of 4 markers. How much more does Mr. Stone pay than Mrs. Kaplan?

Use sentences to explain your thinking.

33) Mr. Wood and Mr. Smith each have two children under 9 years old. Below is some information about their children.

Michael is 3 years younger than his brother.
Royston is the oldest among the four children.
Sean's age is half of Mr. Wood's child's age.
Jack is 1 year older than Mr. Smith's younger child.
Each family had only one child three years ago.

Each child is a different age. Can you list the children's ages and match them with their family members?