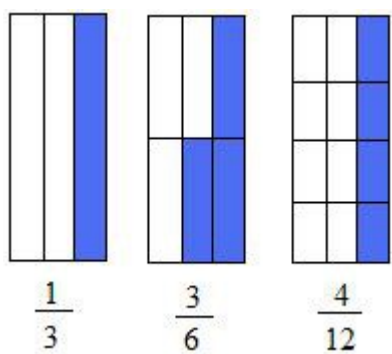


Fourth grade math test solution

1.

a. Which fraction is not equivalent to the other two? _____



3/6 is not equivalent to 1/3 and 4/12

1/3 and 4/12 are equivalent fractions.

To get to 4/12, you can multiply the numerator and the denominator of 1/3 by 4.

It seems like you could multiply the denominator and the numerator of 1/3 by 3 to get an equivalent fraction.

However, if you multiply 1/3 by 3, you get 3/9 and 3/9 is not equal to 3/6.

2. Jetser has a business that is not doing well. On Friday, he earned 468 dollars. On Saturday, he earned 459. On Tuesday, he earned 432 dollars. How much money did he earned on Thursday?

A. 424 **B.** 414 **C.** 314 **D.** 451

Here is the pattern: 468, 459, _____, _____, 432, _____, _____

$$468 - 9 = 459,$$

Maybe subtracting 9 is what we need to do

$$459 - 9 = 450$$

$$450 - 9 = 441$$

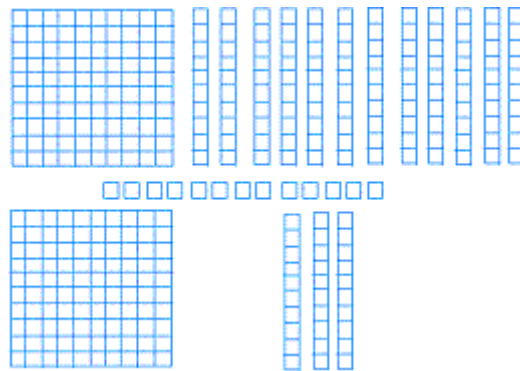
Since $441 - 9 = 432$, 9 is indeed the number to subtract.

$$432 - 9 = 423$$

$$423 - 9 = 414.$$

On Thursday, you earned 414 dollars

3. Look at the base-10 blocks below and tell which number it represents. Take a close look before answering!



A. 363 B. 164 C. 451 D. 300

There are 3 kinds of blocks. We see one that is equal to 100, one that is equal to 10, one that is equal to 1.

How many of each kind?

For the one equal to 100, there are 2 of them, so 200

For the one equal to 10, there are 15 of them.

$$15 \text{ tens} = 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 = 150$$

For the one equal to 1, there are 13 of them, so 13

$$\text{Just add! } 200 + 150 + 13 = 350 + 13 = 363.$$

The answer is A.

4. Round 846 to the nearest hundred _____ and 3756 to the nearest thousand _____

Since 846 is closer to 800 than 900, 846 rounded to the nearest hundred is 800.

Since 3756 is closer to 4000 than 3000, 3756 rounded to the nearest thousand is 4000

5. What number is the same as five thousand twenty-two?

A. 5200 B. 502 C. 5202 D. 5022

Five thousand = 5000 and twenty-two = 22

$$5000 + 22 = 5022$$

6. Write the decimal 0.25 and 0.4 in words and as fractions

0.25 : _____

0.4 : _____

To read and write decimals, use the following steps:

Step #1

First, read the digits to the left of the decimal point as a whole number.

Step #2

Say and for the decimal point.

Step #3

Read the digits to the right of the decimal point as a whole number

Step #4

Say the place name of the last digit.

0.25 is therefore read zero and twenty-five hundredths

0.4 is read zero and four tenths

twenty hundredths means 25 over 100, so as a fraction we can write $\frac{25}{100}$

four tenths means 4 over 10, so as a fraction we can write $\frac{4}{10}$

7. Which number is greater than 5678 but less than 5708?

A. 5677 B. 5707 C. 5800 D. 0

0 is definitely not the number.

5677 is actually smaller than 5678.

5800 is greater than 5708.

The number greater than 5678, but less than 5708 is 5707

8. What is the value of the symbol # ? _____

$$6 + \# = 14$$

$$6 + 8 = 14, \text{ so } \# = 8$$

9. How many blocks of 100 and 10 can you make with 3250?

A. 325 and 1 B. 32 and 5 C. 30 and 50 D. 3 and 55

Answer is B.

$$32 \text{ blocks of hundred} = 32 \text{ hundreds} = 3200$$

$$5 \text{ blocks of } 10 = 5 \text{ tens} = 50$$

$$3200 + 50 = 3250$$

10. 1 quarter, 3 dimes, 2 nickels, and 6 cents equals

A. \$0.70 B. \$0.71 C. \$0.75 D. \$0.69

1 quarter = 25 cents

3 dimes = 30 cents

2 nickels = 10 cents

$25 + 30 + 10 + 6 = 25 + 40 + 6 = 65 + 6 = 71$ cents

71 cents = 0.71 dollar = \$0.71

11. Multiply 235 by 13 _____

A. 4322 B. 3078 C. 3055 D. 566

$$\begin{array}{r} 11 \\ \times 235 \\ \hline 705 \\ 2350 \\ \hline 3055 \end{array}$$

$3 \times 5 = 15$. Write down 5 and carry the 1 in the tens place.

$3 \times 3 = 9$. $9 + 1 = 10$. Write down 0 and carry the 1.

$3 \times 2 = 6$. $6 + 1 = 7$. Write down 7

There will be no more numbers in the ones place, so put a zero beneath 5

$1 \times 5 = 5$. Write 5 in the tens place.

$1 \times 3 = 3$. Write 3 in the hundreds place.

$1 \times 2 = 2$. Write 2 in the thousands place.

Add 705 and 2350 as shown

$5 + 0 = 5$. Put 5 in the ones place

$0 + 5 = 5$. Put 5 in the tens place

$7 + 3 = 10$. Write 0 in the hundreds place and carry 1 to the thousands place.

$1 + 2 = 3$. Write 3 in the thousands place.

12. Which fraction is greater than $\frac{2}{3}$?

A. $\frac{1}{3}$ **B.** $\frac{4}{5}$ **C.** $\frac{4}{6}$ **D.** $\frac{2}{6}$

$\frac{1}{3}$ is definitely smaller

$$\frac{2}{6} = \frac{1}{3} = 0.333333$$

$$\frac{4}{6} = \frac{2}{3} = 0.666666$$

The fraction that is greater than $\frac{2}{3}$ is $\frac{4}{5}$

13. Find 4 multiplication problems that are the same as $12 + 12 + 12$

$$12 + 12 + 12 = 36$$

$$1 \times 36 = 36$$

$$4 \times 9 = 36$$

$$2 \times 18 = 36$$

$$3 \times 12 = 36$$

14. The shaded fraction is

A. two-ninths **B.** nine-three **C.** four-eighths **D.** Three-ninths



3 out of 9 boxes is shaded, so the fraction is three-ninths

15. Perform the following additions and subtractions

$$64837 + 4598 = ?$$

$$92345 - 91422 = ?$$

$$\begin{array}{r} 1 \\ 6\ 4\ 8\ 3\ 7 \\ +\ 4\ 5\ 9\ 8 \\ \hline 5 \end{array}$$

Add the ones: $7 + 8 = 15$. Put 5 in the ones place and carry the 1 to the tens place

$$\begin{array}{r} 1\ 1 \\ 6\ 4\ 8\ 3\ 7 \\ +\ 4\ 5\ 9\ 8 \\ \hline 3\ 5 \end{array}$$

Add the tens: $1 + 3 + 9 = 13$. Put 3 in the tens place and carry the 1 to the hundreds place.

$$\begin{array}{r} 1\ 1\ 1 \\ 6\ 4\ 8\ 3\ 7 \\ +\ 4\ 5\ 9\ 8 \\ \hline 4\ 3\ 5 \end{array}$$

Add the hundreds: $1 + 8 + 5 = 14$. Put 4 in the hundreds place. Carry the 1 to the thousands place.

$$\begin{array}{r} 1\ 1\ 1 \\ 6\ 4\ 8\ 3\ 7 \\ +\ 4\ 5\ 9\ 8 \\ \hline 9\ 4\ 3\ 5 \end{array}$$

Add the thousands: $1 + 4 + 4 = 9$. Put 9 in the thousands place.

$$\begin{array}{r} 1\ 1\ 1 \\ 6\ 4\ 8\ 3\ 7 \\ +\ 0\ 4\ 5\ 9\ 8 \\ \hline 6\ 9\ 4\ 3\ 5 \end{array}$$

Add the ten-thousands: $6 + 0 = 6$. Put 6 in the ten-thousands place.

$$92345 - 91422 = ?$$

$$\begin{array}{r} 92345 \\ - 91422 \\ \hline \end{array}$$

Subtract the ones: $5 - 2 = 3$. Put 3 in the ones place.

$$\begin{array}{r} 92345 \\ - 91422 \\ \hline \end{array}$$

Subtract the tens: $4 - 2 = 2$. Put 2 in the tens place.

$$\begin{array}{r} 92345 \\ - 91422 \\ \hline \end{array}$$

Borrow a 1 from 2 and add that to 3

$$\begin{array}{r} 1 \ 13 \\ 9 \ 2 \ 3 \ 4 \ 5 \\ - 9 \ 1 \ 4 \ 2 \ 2 \\ \hline \end{array}$$

Subtract the hundreds: $13 - 4 = 9$. Write down 9 in the hundreds place

$$\begin{array}{r} 1 \ 4 \\ 9 \ 2 \ 3 \ 4 \ 5 \\ - 9 \ 1 \ 4 \ 2 \ 2 \\ \hline \end{array}$$

Subtract the thousands: $1 - 1 = 0$. Write down 0 in the thousands place

$$\begin{array}{r} 1 \ 4 \\ 9 \ 2 \ 3 \ 4 \ 5 \\ - 9 \ 1 \ 4 \ 2 \ 2 \\ \hline \end{array}$$

Subtract the ten-thousands: $9 - 9 = 0$.
Write down 0 in the thousands place

16.

What is the best name of a geometric figure that looks like a dumpster? _____

Which of the following shape could you probably use to describe the shape of your eyeball?

A.Cube **B.** Sphere **C.** Cylinder **D.** Cone

Which of the following shape could you probably use to describe the shape of the refrigerator in your house?

A.Cube **B.** Sphere **C.** Cylinder **D.** rectangular prism

A dumpster pretty much looks like a box, so you could call it a rectangular prism

An eyeball of course looks like a ball, so you could call it sphere

A refrigerator also looks like a box, so you could also call it a rectangular prism

17. Suppose you have 3 quarters, 5 dimes, 2 pennies, and 1 nickel in your pocket. You tell a friend to pick only one coin. Which coin is your friend most likely to pick? Briefly explain why

You are most likely to pick a dime since there are more dimes than anything else.

18. Write the following numbers in words

5669 _____

8765 _____

5669: Five thousand, six hundreds sixty-nine

8765: Eight thousand, seven hundred sixty-five

19. Perform the following long division

$$4 \overline{) 236}$$

$$5 \overline{) 341}$$

$$4 \overline{)236}$$

$$\begin{array}{r} 5 \\ 4 \overline{)236} \end{array}$$

How many 4's can go into 23? $5 \times 4 = 20$ $6 \times 4 = 24$
So 4 can go 5 times into 23. Write down 5 on top

$$\begin{array}{r} 5 \\ 4 \overline{)236} \\ \underline{-20} \\ 3 \end{array}$$

Multiply 5 by 4 to get 20. Subtract 20 from 23

$$\begin{array}{r} 59 \\ 4 \overline{)236} \\ \underline{-20} \\ 36 \\ \underline{-36} \\ 00 \end{array}$$

Bring down the 6.
Then, ask yourself, "How many 4's can go into 36?"
 $9 \times 4 = 36$. Write down 9 next to 5.
Multiply 9 by 4 to get 36. Subtract 36 from 36

$$5 \overline{)341}$$

$$\begin{array}{r} 6 \\ 5 \overline{)341} \end{array}$$

How many 5's can go into 34? $5 \times 6 = 30$ $5 \times 7 = 35$
So 5 can go 6 times in 34. Write down 6 on top.

$$\begin{array}{r} 6 \\ 5 \overline{)341} \\ \underline{-30} \\ 4 \end{array}$$

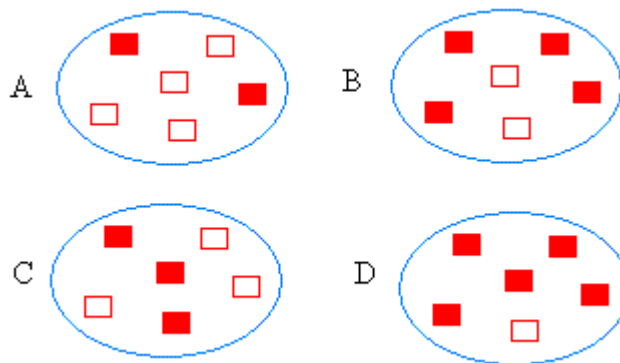
Multiply 6 by 5 to get 30. Subtract 30 from 34

$$\begin{array}{r}
 68 \\
 5 \overline{) 341} \\
 \underline{- 30} \\
 41 \\
 \underline{- 40} \\
 1
 \end{array}$$

Bring down the 1.
 Then, ask yourself, "How many 5's can go into 41?"
 $8 \times 5 = 40$ $9 \times 5 = 45$
 5 can go 8 times into 41.
 Write down 8 next to 6.
 Multiply 8 by 5 to get 40. Subtract 40 from 41

Answer is 68 with a remainder of 1

20. Which two circles when added will give you a whole?



Circle A and circle B

Circle A: $\frac{2}{6}$

Circle B: $\frac{4}{6}$

$$\frac{2}{6} + \frac{4}{6} = \frac{(2 + 4)}{6} = \frac{6}{6} = 1$$

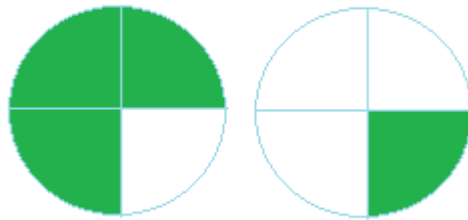
21. Make a circle. Break the circle into 4 equal pieces. Then, shade two-fourths of the circle.



22. Make two circles. Break both circles into 4 equal pieces. Then, shade three-fourths of the first circle and one-fourth of the second circle

a. What is three-fourths minus one-fourth? _____

b. What is three-fourths plus one-fourth? _____



a. If you remove $\frac{1}{4}$ from $\frac{3}{4}$, you will be left with $\frac{2}{4}$ or half.

b. looking at the circles, adding $\frac{1}{4}$ to $\frac{3}{4}$ will completely shade the circle on the left.

$$\frac{1}{4} + \frac{3}{4} = 1$$

23. Replace the symbols * and # with numbers to balance the equation

$$6 + * = 10 + \# + \#$$

Start by adding numbers to 10. It may be easier. Notice that you are adding the same number

Choose 2 for instance.

$$6 + * = 10 + 2 + 2$$

$$6 + * = 14$$

$$6 + 8 = 14$$

Therefore, $* = 8$ and $\# = 2$

24. Which math problem(s) means the same thing as $40 + (100 + 300)$? _____

A. $140 + 300$ **B.** $40 + 500$ **C.** 40×11 **D.** $40 \times 100 + (30)$

$40 + (100 + 300) = (40 + 100) + 300 = 140 + 300$. This is the associative property.

25. Problem solving skills. No calculator. No exception! In fact, no calculator should be used at all to solve this 4th grade math test

You 6700 dollars in your pocket. You want to buy 7 laptop costing each 800 dollars.

How much will the 7 laptops cost? _____

Explain how you used the multiplication table and math facts to get the answer very quickly

After you pay for the calculators, how much money are you left with? _____

Explain again how you used math facts to get the answer very quickly

You want to share the leftover money **evenly** between you and 10 friends. How much money each person will get? _____

Solution:

The seven laptop will cost 7×800 . Just do 7×8 and put two zeros next to the answer.

$7 \times 8 = 56$, so the answer is 5600

After you pay for the laptop, you are left with $6700 - 5600$

Just do $67 - 56$ and put two zeros next to the answer.

$67 - 56 = 11$ since $11 + 56 = 67$

The answer is 1100

You want to share 1100 between 11 people. Just divide 1100 by 11.

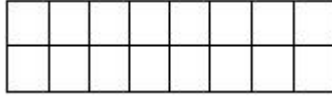
The answer is 100 since $11 \text{ times } 100 = 1100$

**26. If 5 books cost 100 dollars, what is the price of 2 books?
(Suppose you bought 5 of the same book)**

$20 + 20 + 20 + 20 + 20 = 100$, so each book is 20 dollars

$2 \text{ books} = 20 + 20 = 40 \text{ dollars}$.

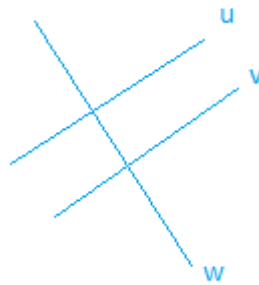
27. The area of the shape below is



A. 14 square units **B.** 17 square units **C.** 10 square units $\times$ 11 **D.** 16 square units

Each square is 1 square unit. Since there are 16 squares, the area is 16 square units

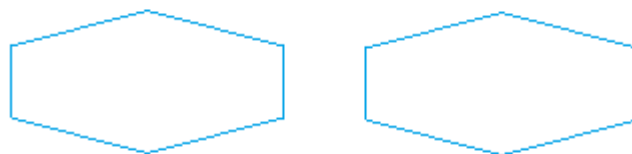
28. In the space below, draw 2 lines that are parallel and a third line that is perpendicular to the parallel lines.



Lines u and v are parallel. Line w is perpendicular to u and v.

29. Draw 2 congruent shapes and 2 similar shapes in the space below:

2 congruent shapes



2 similar shapes



30. Complete with the next 2 numbers

4, 20, 100, _____, _____

$$4 \times 5 = 20$$

$$20 \times 5 = 100$$

$$100 \times 5 = 500$$

$$500 \times 5 = 2500$$

The list 4, 20, 100, 500, 2500