

Third grade math test solution

1. Which two numbers comes next?

10055 , 10105 , 10155 , _____ , _____

$$10055 + 50 = 10105 \text{ and } 10105 + 50 = 10155$$

So, 50 must be added to get the next number.

$$10155 + 50 = 10205 \text{ and } 10205 + 50 = 10255$$

We get 10055, 10105, 10155, 10205, 10255

2. John wants a carpenter to build him a custom bookcase. He wants each shelf to hold 10 books.
How many shelves does he need if he has 123 books?

A. 12 B. 14 C. 13 D. 15

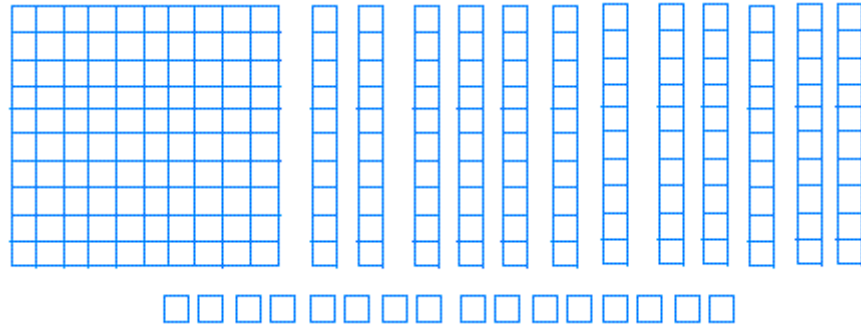
1 shelf	10 books
2 shelves	20 books
3 shelf	30 books
4 shelves	40 books
5 shelf	50 books
6 shelves	60 books
7 shelf	70 books
8 shelves	80 books
9 shelf	90 books
10 shelves	100 books
11 shelf	110 books
12 shelves	120 books
13 shelves	123 books

Here is another way to solve it.

$$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 = 120$$

Count the tens. So far there are 12 shelves, but he has 123 books. So he will need 13 shelves.

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



A. 236 B. 228 C. 136 D. 128

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?

There is only 1 block equal to 100.

For the one equal to 10, there are 12 of them.

12 tens equal to $10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 = 120$

For the one equal to 1, there are 16 of them, so 16

Just add! $100 + 120 + 16 = 220 + 16 = 236$.

The answer is C.

4. What number is the same as two hundred forty five

A. 245 B. 255 C. 542 D. 452

two hundred forty five = 245

5. Fill in the missing two numbers?

941, 952, _____, 974, _____

$$941 + 11 = 952$$

$$952 + 11 = 963$$

Since $963 + 11$ is indeed equal to 974, then 11 is the number to add to get to the next number.

$$974 + 11 = 985$$

We get: 941, 952, 963, 974, 985

6. Which number is greater than 865 but less than 941?

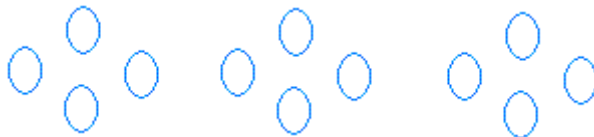
A. 789 B. 941 C. 899 D. 945

789 and 945 cannot be answers since 789 is smaller than 865 and 945 is bigger than 941.

$941 = 941$, but we are looking for a number that is less.

899 is the answer. It is greater than 865 and less than 941.

7. Which numerical expression matches the picture? _____



A. $4 + 3$ B. $12 - 4$ C. 4×3 D. 2×3

The picture is equal to 12.

$$4 + 3 = 7$$

$$12 - 4 = 8$$

$$4 \times 3 = 12$$

$$2 \times 3 = 6$$

The correct expression is 4×3

8. How many blocks of 10 can you make with 240?

A. 40 B. 42 C. 24 D. 100

Just ask yourself, "How many 10's will be equal to 240?"

$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$ (10 tens so far equal to 100)

$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$ (20 tens so far equal to 200)

$10 + 10 + 10 + 10$

Adding 4 more 10's will get you to 240. Therefore, we need 24 tens

9. Tell if the number on the left is less or greater than the number on the right. Replace the question mark (?) with < or >

$$899 \text{ ? } 901$$

$$1425 \text{ ? } 1424$$

Always compare the number on the left to the right

If the number on the left is smaller, use <. Otherwise, use >

Since 899 is smaller than 901, use <, so $899 < 901$

Since 1425 is bigger than 1424, use >, so $1425 > 1424$

10. Which number is made up of 4 hundreds 8 tens and 4 ones.

A. 4084 B. 484 C. 448 D. 844

4 hundreds = 400

8 tens = 80

4 ones = 4

$$400 + 80 + 4 = 484$$

11. Find 2 multiplication problems that are the same as $8 + 8$

$$8 + 8 = 16$$

$$4 \times 4 = 16 \quad \text{and} \quad 2 \times 8 = 16$$

12. Perform the following additions and subtractions

$$54678 + 45624 = ?$$

$$\begin{array}{r} 1 \\ 5\ 4\ 6\ 7\ 8 \\ +\ 4\ 5\ 6\ 2\ 4 \\ \hline 2 \end{array}$$

Add the ones: $8 + 4 = 12$. Put 2 in the ones place and carry the 1 to the tens place

$$\begin{array}{r} 1\ 1 \\ 5\ 4\ 6\ 7\ 8 \\ +\ 4\ 5\ 6\ 2\ 4 \\ \hline 0\ 2 \end{array}$$

Add the tens: $1 + 7 + 2 = 10$. Put 0 in the tens place and carry the 0 to the hundreds place.

$$\begin{array}{r} 1\ 1\ 1 \\ 5\ 4\ 6\ 7\ 8 \\ +\ 4\ 5\ 6\ 2\ 4 \\ \hline 3\ 0\ 2 \end{array}$$

Add the hundreds: $1 + 6 + 6 = 13$. Put 3 in the hundreds place. Carry the 1 to the thousands place.

$$\begin{array}{r} 1\ 1\ 1\ 1 \\ 5\ 4\ 6\ 7\ 8 \\ +\ 4\ 5\ 6\ 2\ 4 \\ \hline 0\ 3\ 0\ 2 \end{array}$$

Add the thousands: $1 + 4 + 5 = 10$. Put 0 in the thousands place. Carry the 1 to the ten-thousands place.

$$\begin{array}{r}
 1\ 1\ 1\ 1 \\
 5\ 4\ 6\ 7\ 8 \\
 +\ 4\ 5\ 6\ 2\ 4 \\
 \hline
 1\ 0\ 0\ 3\ 0\ 2
 \end{array}$$

Add the ten-thousands: $1 + 5 + 4 = 10$.

$$98765 - 97653 = ?$$

$$\begin{array}{r}
 9\ 8\ 7\ 6\ 5 \\
 -\ 9\ 7\ 6\ 5\ 3 \\
 \hline
 2
 \end{array}$$

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

$$\begin{array}{r}
 9\ 8\ 7\ 6\ 5 \\
 -\ 9\ 7\ 6\ 5\ 3 \\
 \hline
 2\ 2
 \end{array}$$

Subtract the tens: $6 - 5 = 1$. Put 1 in the tens place.

$$\begin{array}{r}
 9\ 8\ 7\ 6\ 5 \\
 -\ 9\ 7\ 6\ 5\ 3 \\
 \hline
 1\ 2\ 2
 \end{array}$$

Subtract the hundreds: $7 - 6 = 1$. Put 1 in the hundreds place.

$$\begin{array}{r}
 9\ 8\ 7\ 6\ 5 \\
 -\ 9\ 7\ 6\ 5\ 3 \\
 \hline
 1\ 1\ 2\ 2
 \end{array}$$

Subtract the thousands: $8 - 7 = 1$. Put 1 in the thousands place.

$$\begin{array}{r}
 9\ 8\ 7\ 6\ 5 \\
 -\ 9\ 7\ 6\ 5\ 3 \\
 \hline
 0\ 1\ 1\ 2\ 2
 \end{array}$$

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

13. What is the name of a geometric figure that looks like an orange _____

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

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

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

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

An orange looks like a sphere. Your finger looks like a cylinder. The shape of your door is like a rectangular prism.

14. Find 2 multiplication problems that are the same as $36 + 36$

$$36 + 36 = 72$$

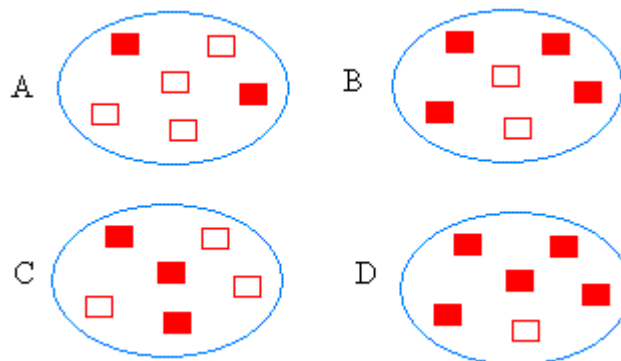
$$9 \times 8 = 72 \text{ and } 3 \times 24 = 72$$

15. Write the following numbers in words

4561: four thousands, five hundred sixty-one

3974: three thousands, nine hundreds seventy-four

16. Which two circles show two-sixths ($\frac{2}{6}$) and five-sixths ($\frac{5}{6}$) of the circles shaded?



Choice #1: A and B **Choice #2:** B and D **Choice #3:** A and D **Choice #4:** C and D

Answer is **Choice #3**

17. Make a rectangle. Break the rectangle into 8 equal pieces. Then, shade six-eighths of the rectangle.



18. You go to a store with 3.20 dollars in your pocket. The menu is:

Hamburger.....\$1.60

Fruit salad.....\$2.40

Pizza slice.....\$1.80

Sprite.....\$1.10

Fruit juice.....\$1.90

Side of chicken wings.....\$2.50

Which two items can you buy with your 3.20 dollars?

- A.** Hamburger and Pizza slice **B.** Side of chicken wings and sprite **C.** Pizza slice and fruit juice **D.** Hamburger and sprite

If you buy just a fruit salad, what is your change? _____

Hamburger and pizza slice: $1.60 + 1.80 = 3.40$ more than 3.20

Side of chicken wings and sprite: $2.50 + 1.10 = 3.60$ more than 3.20

Pizza slice and fruit juice: $1.80 + 1.90 = 3.70$ more than 3.20

Hamburger and sprite: $1.60 + 1.10 =$ less than **2.70**

You can buy hamburger and sprite.

If you buy a fruit salad, you are left with $3.20 - 2.40 = 0.80$

$$\begin{array}{r} 2 \ 12 \\ 3 \ . \ 2 \ 0 \\ - 2 \ . \ 4 \ 0 \\ \hline 0 \ . \ 8 \ 0 \end{array}$$

19. Which math problem means the same thing as $(10 + 5) + 7$? _____

- A.** $14 + 7$ **B.** $15 + 6$ **C.** 15×7 **D.** $10 + (12)$

$$\begin{aligned} (10 + 5) + 7 &= 10 + (5 + 7) \\ &= 10 + (12) \end{aligned}$$

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

You 552 dollars in your pocket. You want to buy 6 scientific calculators costing each 78 dollars.

How much will the 6 calculators cost? _____

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

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

The 6 calculator will cost 78×6

$\begin{array}{r} 4 \\ 78 \\ \times 6 \\ \hline 468 \end{array}$	$6 \times 8 = 48$. Write down the 8 in the ones place. Carry 4 tens to the tens place. $6 \times 7 = 42$ and $42 + 4 = 46$. Write 46 down
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After you buy the calculator, you are left with $552 - 468$

$\begin{array}{r} 552 \\ - 468 \\ \hline \end{array}$	Borrow 1 ten from 5 tens. Add 1 ten to 2 to make it 12
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$\begin{array}{r} 412 \\ 552 \\ - 468 \\ \hline 4 \end{array}$	$12 - 8 = 4$. Write 4 down.
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$\begin{array}{r} 41412 \\ 552 \\ - 468 \\ \hline 084 \end{array}$	Borrow 1 hundred from 5 hundreds. 1 hundred = 10 tens. Add 10 tens to 4 tens to make it 14 tens. $14 - 6 = 8$. Write 8 down $4 - 4 = 0$. Write 0 down.
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You have 84 dollars left. You and 2 friends equal 3. $84 \div 3 = 28$

$$28 + 28 + 28 = 84$$

Each of you gets 28 dollars