

Thinkwell's Placement Test 1 Answer Key

If you answered 5 or more Test 1 questions correctly, we recommend Thinkwell's Homeschool Prealgebra.

1. Answer: 423

Explanation

The standard form of a number is just the number written in digits. Use the given place value and digits to write the number in standard form. Write 4 in the hundreds place, 2 in the tens place, and 3 in the ones place.

four hundred twenty-three = 423

This concept is covered in Thinkwell's Prealgebra lecture "Reading and Writing Whole Numbers."

2. Answer: 370

Explanation

First, identify the digit in the indicated rounding place, which is the tens place. The digit in the tens place is 6.

Next, determine if the digit immediately to the right is less than 5 (0, 1, 2, 3, or 4) or 5 or more (5, 6, 7, 8, or 9). The digit immediately to the right of 6 is the ones place digit, 8. Since 8 is "5 or more," the tens digit increases by 1, so the tens digit increases from 6 to 7.

Change the digit to the right of the tens place to 0. Thus, 368 rounded to the nearest ten is 370.

This concept is covered in Thinkwell's Prealgebra lecture "Rounding Whole Numbers."

3. Answer: 97

Explanation

The addends are the numbers to be added, 55 and 42. Write the addends with the ones-place digits aligned.

Add the digits in the ones column and write that sum
as the ones-place digit in the answer.

$$\begin{array}{r} 55 \\ + 42 \\ \hline 7 \end{array}$$

Add the digits in the tens column and write that sum
as the tens-place digit in the answer.

$$\begin{array}{r} 55 \\ + 42 \\ \hline 97 \end{array}$$

Therefore, $55 + 42 = 97$.

This concept is covered in Thinkwell's Prealgebra lecture "Adding Whole Numbers."

4. Answer: 562

Explanation

The subtrahend is the number being subtracted from and the minuend is the number being subtracted.

Write the subtrahend and minuend with the ones-place digits aligned.

Subtract the digits in the ones column
and write that difference as the
ones-place digit in the answer.

$$\begin{array}{r} 874 \\ - 312 \\ \hline 2 \end{array}$$

Subtract the digits in the tens column
and write that difference as the
tens-place digit in the answer.

$$\begin{array}{r} 874 \\ - 312 \\ \hline 62 \end{array}$$

Subtract the digits in the hundreds column
and write that difference as the
hundreds-place digit in the answer.

$$\begin{array}{r} 874 \\ - 312 \\ \hline 562 \end{array}$$

Therefore, $874 - 312 = 562$.

This concept is covered in Thinkwell's Prealgebra lecture "Subtracting Whole Numbers."

5. Answer: 2,420

Explanation

To multiply 484×5 , first write the multiplication vertically.

Multiply 5 by each digit in 484, starting with the ones-place digit and then moving to the left.

First, multiply 5 by 4, $5 \times 4 = 20$. Since the result is a two-digit number, write the ones-place digit, 0, in the ones place of the answer and carry the tens-place digit, 2, to the tens place.

$$\begin{array}{r} 484 \\ \times 5 \\ \hline 0 \end{array}$$

Now multiply 5 by 8, and add the carried 2, $5 \times 8 + 2 = 42$. Since 42 is a two-digit number, write 2 in the tens place of the answer and carry the 4 to the hundreds place.

$$\begin{array}{r} 484 \\ \times 5 \\ \hline 20 \end{array}$$

Now multiply 5 by 4, and add the carried 4, $5 \times 4 + 4 = 24$. Since 5 has now been multiplied by each digit in 484, the digits in 24 can just be written in the answer, where 4 is in the hundreds place and 2 is in the thousands place.

$$\begin{array}{r} 484 \\ \times 5 \\ \hline 2420 \end{array}$$

Therefore, $484 \times 5 = 2,420$.

This concept is covered in Thinkwell's Prealgebra lecture "Multiplying Whole Number."

6. Answer: E-None of the above

Explanation

The phrase "36 divided by 3" indicates that 3 is the divisor and 36 is the dividend (the number being divided).

A numerical expression involving division can be written as a fraction or by using either the $\overline{\hspace{1cm}}$, $/$, or \div symbol.

- A. When division is written as a fraction, the numerator (number on the top of the fraction) is always the dividend and the denominator (the number on the bottom of the fraction) is always the divisor.

$$\frac{\text{dividend}}{\text{divisor}}$$

Therefore, "36 divided by 3" can be written as $\frac{36}{3}$, not $\frac{3}{36}$.

- B. When division is written using the $\overline{\hspace{1cm}}$ symbol, the number outside the symbol is always the divisor and the number inside the symbol is always the dividend.

$$\text{divisor} \overline{\text{dividend}}$$

Therefore, "36 divided by 3" can be written as $3 \overline{)36}$, not $36 \overline{)3}$.

- C. When division is written using the $/$ symbol, the same rules apply as with a fraction, but with a $/$, the first number is the numerator (dividend) and the second number is the denominator (divisor).

$$\text{dividend} / \text{divisor}$$

Therefore, "36 divided by 3" can be written as $36 / 3$, not $3 / 36$.

- D. When division is written using the \div symbol, the first number is always the dividend and the second number is always the divisor.

$$\text{dividend} \div \text{divisor}$$

Therefore, "36 divided by 3" can be written as $36 \div 3$, not $3 \div 36$.

This concept is covered in Thinkwell's Prealgebra lecture "Dividing Whole Numbers."

7. Answer: True

Explanation

The expression 3^2 is a power where 3 is the base and 2 is the exponent. The exponent indicates the number of times that the base will be multiplied by itself. Therefore, $3^2 = 3 \cdot 3$. Since $3 \cdot 3 = 9$, the statement $3^2 = 9$ is true.

This concept is covered in Thinkwell's Prealgebra lecture "Introduction to Exponents."

8. **Answer: 17**

Explanation

The expression $4 \cdot 5 - 3$ contains two operations, multiplication and subtraction. Therefore, the order of operations must be used when simplifying the expression. According to the order of operations, multiplication is completed before subtraction. So, multiply and then subtract to simplify.

$$4 \cdot 5 - 3$$

$$20 - 3$$

$$17$$

This concept is covered in Thinkwell's Prealgebra lecture "Using the Order of Operations."

9. **Answer: <**

Explanation

Values on a number line decrease from right to left. If -5 and 5 are graphed on a number line, -5 is to the left of 5 . Therefore, -5 is less than 5 . The symbol " $<$ " represents less than when reading from left to right. Therefore, the statement can be completed using the $<$ symbol: $-5 < 5$.

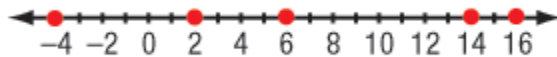
This concept is covered in Thinkwell's Prealgebra lecture "Integers and the Number Line."

10. **Answer: 16, 14, 6, 2, -4**

Explanation

Values on a number line increase from left to right.

Place each value from the list on a number line.



The largest value will be the value farthest to the right on the number line. Here, the largest value is 16 . Then list each value moving from the farthest right to the left. $16, 14, 6, 2, -4$

This concept is covered in Thinkwell's Prealgebra lecture "Integers and the Number Line."