

Read to your supervisor.

## MY GOALS

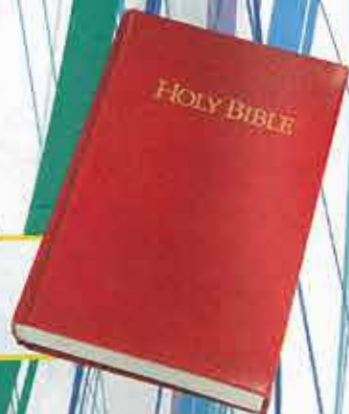
- To practice reading and writing whole numbers through the hundred trillions' place
- To review writing powers of ten in standard notation
- To review writing numbers in expanded notation using exponents
- To review the commutative, associative, and identity properties for addition and multiplication
- To learn the distributive property
- To review the basic operations of addition, subtraction, multiplication, and division
- To review comparing and ordering fractions and mixed numbers
- To review addition and subtraction of fractions from whole and mixed numbers
- To review exponents
- To learn to identify and solve for perfect squares and square roots
- To review basic number theory and concepts of fractions
- To find the prime factors of a number
- To solve word problems by estimating answers

### CONFIDENT

To believe that what I say or do through Christ will help others and me

Learn this Scripture verse.

I can do all things through Christ which strengtheneth me.  
Philippians 4:13



### Confident



NOTE to student and supervisor: Be sure to write over each gray example before proceeding to the next activity question.

1

Supervisor initial \_\_\_\_\_

This is a review PACE. Please do not allow student to use a calculator.

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A place value chart helps us review reading and writing whole numbers.

Complete the place value chart by filling in the missing place values on the blanks provided.

PLACE VALUE CHART								
millions			(1) _____	units				
(4)	ten millions	(one) millions	hundred thousands	(3)	(one) thousands	(2)	tens	ones
9	5	1,	6	4	2,	3	2	0

	Population	Projected Population - 2050
Bangladesh	153,546,901	205,093,861
Brazil	191,908,598	206,751,477
Indonesia	237,512,355	337,807,011
Japan	127,288,419	101,228,471
Nigeria	138,283,240	205,093,861
Pakistan	167,762,040	267,813,495
United States	303,824,646	403,943,147



Look at the Population column for the nations in the chart. To indicate which number is being described, write the correct nation on the blank.

- (5) There is a 0 in the ones' place and a 2 in the hundred thousands' place. \_\_\_\_\_
- (6) There is a 1 in the hundred millions' place and a 6 in the ten thousands' place. \_\_\_\_\_
- (7) There is a 2 in the thousands' place, a 7 in the millions' place but not a 7 in the hundred thousands' place. \_\_\_\_\_
- (8) There is a 5 in the hundreds' place. \_\_\_\_\_
- (9) There is a 3 in the millions' place and a 6 in the thousands' place. \_\_\_\_\_
- (10) There is a 4 in both the tens' place and the thousands' place. \_\_\_\_\_

Read the numbers in the Projected Population - 2050 column to your supervisor.



Sandy McMercy

In the example on page 16, we rounded both numbers to the largest place value, which was the hundreds' place. However, if a more accurate estimate is needed, we need to round to the **tens'** place.

Grace School has 119 students. Faith Academy has 389 students. How many more students are there in Faith Academy than in Grace School?

When we subtract, the **actual difference** is  $\begin{array}{r} 389 \\ -119 \\ \hline 270 \end{array}$ ; the **estimate** is  $\begin{array}{r} 390 \\ -120 \\ \hline 270 \end{array}$ . This gives us a more accurate estimate, although it is a little more difficult to do mentally. Multiplication and division are done the same way. Study the examples below.

$$406 \times 295 = ?$$

**Estimate**

$$\begin{array}{r} 410 \\ \times 300 \\ \hline 123,000 \end{array}$$

**Exact**

$$\begin{array}{r} 406 \\ \times 295 \\ \hline 2030 \\ 36540 \\ 81200 \\ \hline 119,770 \end{array}$$

$$3,504 \div 73 = ?$$

**Estimate**

$$3500 \div 70 = 50$$

**Exact**

$$\begin{array}{r} 48 \\ 73 \overline{)3504} \\ \underline{292} \phantom{0} \\ 584 \\ \underline{584} \\ 0 \end{array}$$

On the first blank (a), write the estimated answer, rounding to the nearest ten.  
On the second blank (b), write the exact answer.

(6) 
$$\begin{array}{r} 4,018 \\ \times 41 \\ \hline \end{array}$$

(a) \_\_\_\_\_  
(b) \_\_\_\_\_

(9) 
$$\begin{array}{r} 295 \\ \times 406 \\ \hline \end{array}$$

(a) \_\_\_\_\_  
(b) \_\_\_\_\_

(7) 
$$72 \overline{)3,528}$$

(a) \_\_\_\_\_  
(b) \_\_\_\_\_

(10) 
$$63 \overline{)2,457}$$

(a) \_\_\_\_\_  
(b) \_\_\_\_\_

(8) 
$$\begin{array}{r} 398 \\ \times 73 \\ \hline \end{array}$$

(a) \_\_\_\_\_  
(b) \_\_\_\_\_

(11) 
$$\begin{array}{r} 6,084 \\ \times 77 \\ \hline \end{array}$$

(a) \_\_\_\_\_  
(b) \_\_\_\_\_

## Confident



On the first blank (a), write the estimated answer, rounding to the nearest ten.  
On the second blank (b), write the exact answer.

- (12) The teenagers are helping Mr. Virtueson distribute flyers, inviting people to the upcoming revival services at Highland Church. If 19 teenagers participate, how many flyers will each teen need to distribute if they plan to place flyers on the doors of 4,484 homes?

(a) \_\_\_\_\_  
(b) \_\_\_\_\_



- (13) Mr. Lovejoy is adding a deli and reading room to his bookstore. The deli will seat 28 people. The reading room will have enough tables to seat 88 people. How many people will the addition to Mr. Lovejoy's bookstore accommodate?

(a) \_\_\_\_\_  
(b) \_\_\_\_\_



- (14) Mr. McMercy is building a multipurpose building for a church in his area. The building will be 44 feet by 74 feet. If they put tile on the entire floor, how many boxes of 1 foot by 1 foot tile will it take to cover the floor? Assume there are 24 pieces of tile per box.

(a) \_\_\_\_\_  
(b) \_\_\_\_\_



## Work Space

Score pages 16, 17, and 18.

Correct mistakes.

Rescore.

## Confident



Earlier in this PACE, you learned that an exponent tells how many times a base is used as a factor, or how many times the base is multiplied by itself. Exponents are also called **powers**. Evaluate the following **exponential** (*ĕk'spō-nĕn'shəl*) **expression**.  $3^5$

Write the correct answer on the blank.

- (1) Which number is the base? \_\_\_\_\_
- (2) Which number is the exponent? \_\_\_\_\_
- (3) How many times is 3 used as a factor? \_\_\_\_\_
- (4) How is  $3^5$  read? \_\_\_\_\_
- (5) How is  $4^2$  read? \_\_\_\_\_ or \_\_\_\_\_ to the \_\_\_\_\_ power
- (6) How is  $7^3$  read? \_\_\_\_\_ or \_\_\_\_\_ power

Complete the following chart.

Base with Exponent	Factors	Standard Notation
$7^4$	(7) _____	(8) _____
(9) _____	$10 \times 10 \times 10$	(10) _____
$5^5$	(11) _____	(12) _____
(13) _____	$2 \times 2 \times 2 \times 2 \times 2$	(14) _____

Behold the fowls of the air . . . your heavenly Father feedeth them.  
Matthew 6:26





Nita Faithful

The **inverse** (opposite) of squaring a number is called the **square root**. A square root is a number that when multiplied by itself yields a given number. The **radical sign**  $\sqrt{\quad}$  tells us to find the square root.

$$3 \cdot 3 = 9$$

$$6 \cdot 6 = 36$$

$$1.2 \cdot 1.2 = 1.44$$

$$\sqrt{9} = 3$$

$$\sqrt{36} = 6$$

$$\sqrt{1.44} = 1.2$$

In the first example above, **3** is the square root of **9**, since **3** multiplied by itself yields **9**.

**Remember:** The dot "." tells us to multiply.

On the first blank, write the exponential expression in standard notation. On the second blank, place it under a radical sign, and then find the square root. On the third blank, write the square root.

- |      |         |                 |                 |                 |
|------|---------|-----------------|-----------------|-----------------|
| (15) | $8^2$   | <u>64</u>       | $\sqrt{64}$     | <u>8</u>        |
| (16) | $7^2$   | <u>        </u> | <u>        </u> | <u>        </u> |
| (17) | $12^2$  | <u>        </u> | <u>        </u> | <u>        </u> |
| (18) | $4^2$   | <u>        </u> | <u>        </u> | <u>        </u> |
| (19) | $11^2$  | <u>        </u> | <u>        </u> | <u>        </u> |
| (20) | $5^2$   | <u>        </u> | <u>        </u> | <u>        </u> |
| (21) | $15^2$  | <u>        </u> | <u>        </u> | <u>        </u> |
| (22) | $1.5^2$ | <u>        </u> | <u>        </u> | <u>        </u> |
| (23) | $20^2$  | <u>        </u> | <u>        </u> | <u>        </u> |
| (24) | $6^2$   | <u>        </u> | <u>        </u> | <u>        </u> |
| (25) | $1.1^2$ | <u>        </u> | <u>        </u> | <u>        </u> |

Score pages 33 and 34.

Correct mistakes.

Rescore.