**LESSON 18—NOTES**

**SQUARES AND SQUARE ROOT**

**SQUARE ROOT**—WHEN THE PRODUCT OF 2 IDENTICAL FACTORS IS MULTIPLIED,

 THE FACTOR IS THE SQUARE ROOT OF A NUMBER.

 (  IS THE SQUARE ROOT SYMBOL)

  = 6 BECAUSE 6 X 6 IS 36

**SQUARE**—WHEN 2 IDENTICAL NUMBERS ARE MULTIPLIED TOGETHER.

 EX: 62 = 36 ( 6X6 = 36)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |

\*\*THE PICTURE REPRESENTS THE 

WHICH IS 6 BECAUSE EACH SIDE IS

6 UNITS LONG.

\*\***THE PICTURE MUST BE A SQUARE**

 **--SQUARE ROOT!**

**SQUARE ROOTS THRU 40!**

 = 1  = 11  = 21  = 31

 = 2  = 12  = 22 = 32

 = 3  = 13  = 23  = 33

= 4  = 14  = 24  = 34

= 5  = 15  = 25  = 35

 =6  = 16  = 26  = 36

 =7  = 17  = 27  = 37

 = 8  = 18  = 28  = 38

 = 9  = 19  = 29  = 39

= 10  = 20  = 30  = 40

**LESSON 18—NOTES—STUDENTS COPY**

**SQUARES AND SQUARE ROOT**

**SQUARE ROOT**—\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 (  IS THE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

  = 6 BECAUSE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**SQUARE**—\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

 EX: 62 = ( 6X6 = 36)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |
| 6 |  |  |  |  |  |

\*\*THE PICTURE REPRESENTS THE \_\_\_\_

WHICH IS 6 BECAUSE EACH SIDE IS

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

\*\***THE PICTURE MUST BE A SQUARE**

 **--SQUARE ROOT!**

**SQUARE ROOTS THRU 40!**

 =  = = 21 = 31

 =  =  =  =

 = = 13 = 23 = 33

=  =  =  =

= = 15 = 25 = 35

 =  =  =  =

 = = 17 = 27 = 37

 =  =  =  =

 = = 19 = 29 = 39

=  =  =  =

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class\_\_\_\_**

**LESSON 18: SQUARES AND SQUARE ROOTS**

**NWNC!!**

For each pair of similar figures, find the length, ***x****.*

1. 2.

 10in

 18cm 24 cm

 35in

 30cm

 x 6in

 x

 \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

3. A flagpole casts a shadow 10 ft long. If a \_\_\_\_\_\_\_\_\_\_\_\_

 man 6 ft tall casts a shadow 4 ft long at

 the same time of day, how tall is the flagpole?

4. A photograph is 25 cm wide and 20 cm high. \_\_\_\_\_\_\_\_\_\_\_\_

 It must be reduced to fit a space that is 8 cm

 high. Find the width of the reduced photograph.

Find the length of one side (***s***) of each square.

5. 6. 7.

Area

400 ft2

Area

64 cm2

Area

25 m2

 \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

Find the square root of each:

8.  = \_\_\_\_\_\_\_ 9.  = \_\_\_\_\_\_ 10.  = \_\_\_\_\_\_\_

Find the unit rate of each:

11. 78 yards for $3.00 is \_\_\_\_\_\_\_\_\_\_\_\_\_\_per yard.

12. 600 miles with 30 gallons is \_\_\_\_\_\_\_\_\_\_\_\_miles per gallon.

Multiplication Models:

13. Draw in the following fractions. 14. What 2 fractions are multiplied?

 1/4 x 1/2

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
|  |

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

Fill in the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Problem** | **Decimal** | **Fraction** | **Percent** |
| **15.** | **0.17** |  |  |
| **16.** |  | **7/4** |  |
| **17.** |  |  | **150%** |

True or False: Circle the correct answer.

18. T F To solve a proportion, you cross multiply and divide.

19. T F In the following problem, 9 + 23 – (7 x 6), you can work this problem

 in any order. You do NOT have to follow PEMDAS.

20. T F Square Root is the same number multiplied by itself.