

10/25/17

**Review pop-quiz on
Dimensional Analysis.**

Equivalence statements: $2.54 \text{ cm} = 1 \text{ in}$;
 $12 \text{ in} = 1 \text{ ft}$; $12 \text{ in} = 1 \text{ ft}$; $60 \text{ min} = 1 \text{ hr}$;
 $60 \text{ sec} = 1 \text{ min}$; $1000 \text{ g} = 1 \text{ kg}$.

1. What is the equivalent of 6.3
kilograms in grams?

$$\frac{6.3 \cancel{\text{kg}} \times 1000 \cancel{\text{g}}}{1 \cancel{\text{kg}}}$$

$$6.3 \times 1000 = \boxed{6300 \text{g}}$$

2. Convert 17.5 feet to
centimeters.

$$\frac{17.5 \cancel{\text{ft}} \times 12 \cancel{\text{in}} \times 2.54 \text{ cm}}{1 \cancel{\text{ft}} \times 1 \cancel{\text{in}}}$$

$$17.5 \times 12 \times 2.54$$

$$= 533.4 \text{ cm}$$

3. Convert 4,500,000 seconds to days.

$$\frac{4,500,000 \cancel{\text{sec}} \times 1 \cancel{\text{min}} \times 1 \cancel{\text{hr}}}{60 \cancel{\text{sec}} \times 60 \cancel{\text{min}}}$$

$$\frac{1 \text{ day}}{24 \cancel{\text{hrs}}}$$

$$\frac{4,500,000 \times 1}{60 \times 60 \times 24} = \frac{4,500,000}{86400}$$

$$= 52.08 \text{ days}$$

Dimensional Analysis Pop Quiz 2

- Answer # 4 only

Essential Questions 10/25/17

1. How can I simplify Radicals?

Learning Objectives

- I can write the prime factorization of a given number.
- I can simplify Radicals.

Unit 1: Expressions with Radicals.


Standards:


MGSE9-12.N.RN.2


Rewrite expressions involving radicals (i.e., simplify and/or use the operations of addition, subtraction, and multiplication, with radicals within expressions limited to square roots).

INB

Prime and Composite Numbers

 Prime

 Composite

 Neither

Prime numbers

are numbers that are only divisible by 1 and themselves

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

Composite numbers are numbers that are divisible by numbers other than 1 and themselves.

Prime Factorization Examples.

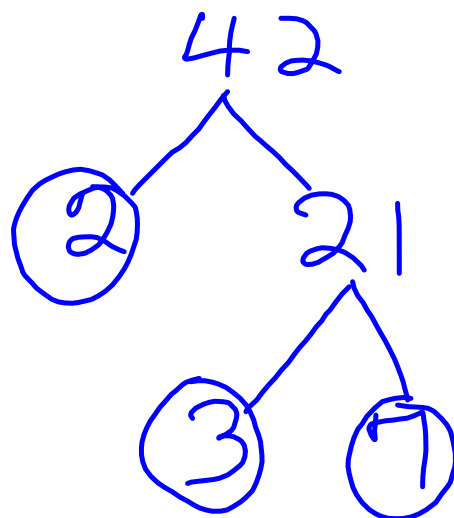
1. Write the prime factorization of 42.

Ladder



$$42 = 2 \cdot 3 \cdot 7$$

Tree



$$42 = 2 \cdot 3 \cdot 7$$

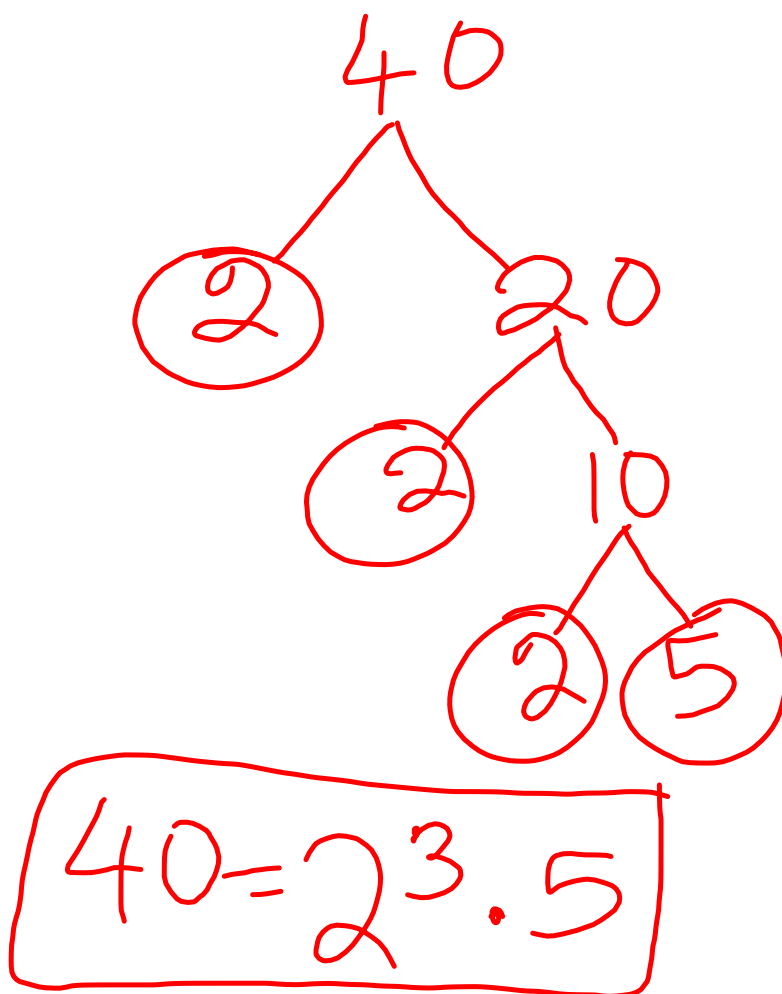
2. Write the prime factorization of 120.

$$\begin{array}{r|l} 2 & 120 \\ \hline 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

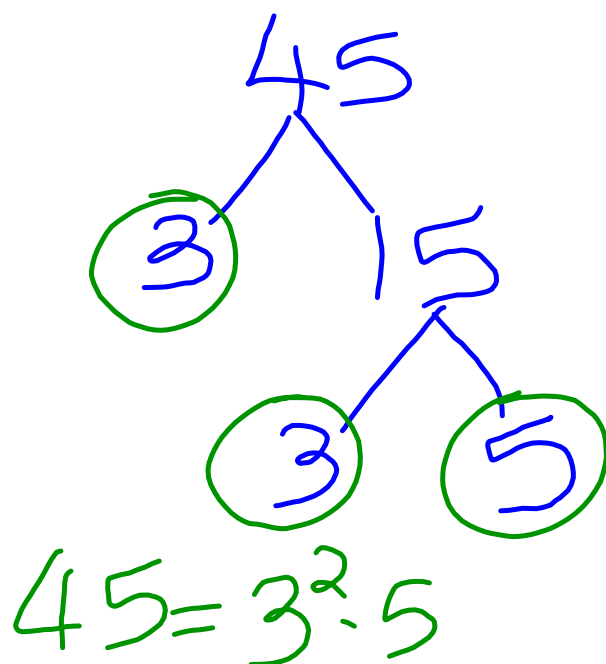
$$2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 = 2^3 \cdot 3 \cdot 5$$

$$120 = 2^3 \cdot 3 \cdot 5$$

3. Write the prime factorization of 40.



4. Write the prime factorization of 45.



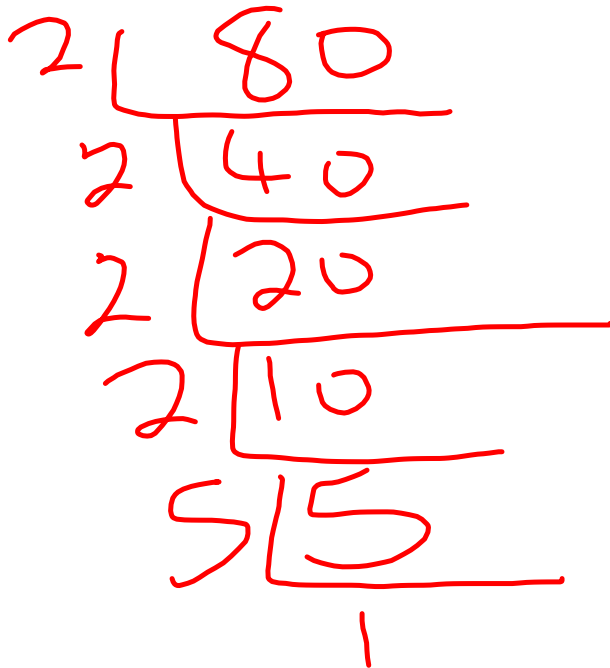
Ladder Method

$$\begin{array}{r} 3 \overline{) 45} \\ \underline{30} \\ 15 \\ 3 \overline{) 15} \\ \underline{15} \\ 0 \\ 5 \overline{) 5} \\ \underline{5} \\ 0 \end{array}$$

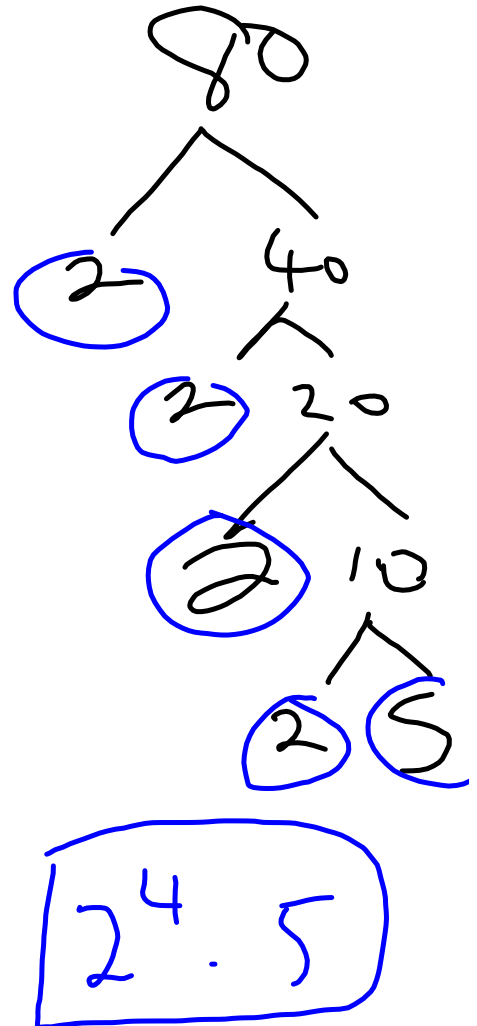
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$$45 = 3^2 \cdot 5$$

5. Write the prime factorization of 80.

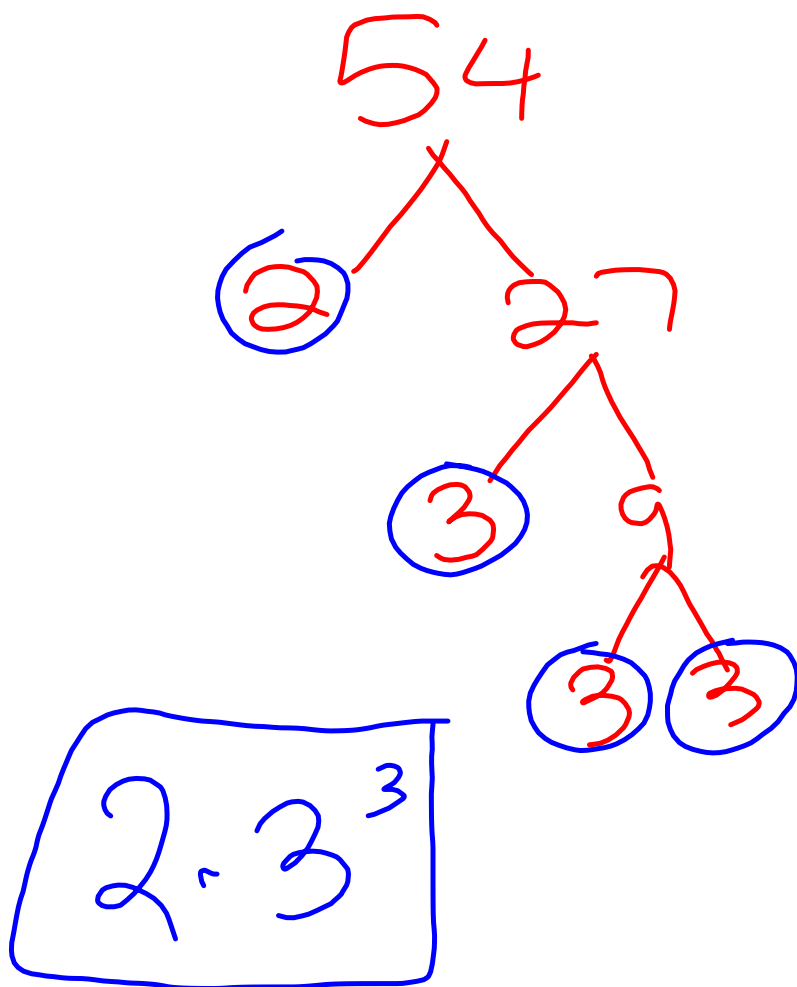


$$80 = 2^4 \cdot 5$$



Post-It Check 10/25/17

1. Write the prime factorization of 54.



$$\begin{array}{r} 2 \overline{) 54} \\ \underline{4} \\ 14 \\ \underline{12} \\ 2 \end{array}$$
$$\begin{array}{r} 3 \overline{) 27} \\ \underline{6} \\ 21 \\ \underline{21} \\ 0 \end{array}$$
$$\begin{array}{r} 3 \overline{) 9} \\ \underline{6} \\ 3 \end{array}$$
$$\begin{array}{r} 3 \overline{) 3} \\ \underline{3} \\ 0 \end{array}$$

↓

$2 \cdot 3^3$

Prime Factorization Work Sheet

1 - 10

