


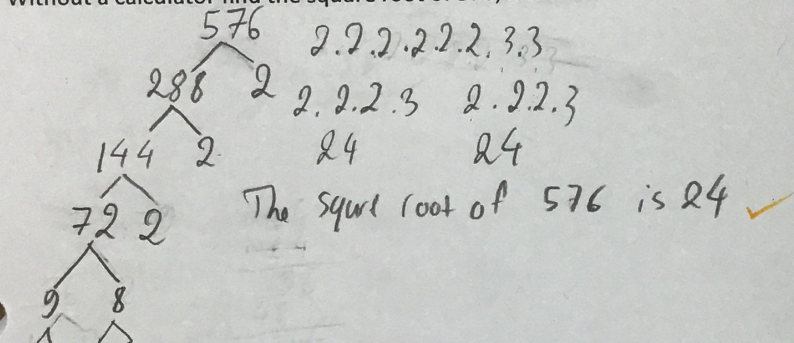
Name: James Gellert 

Date: Tue Feb -4 /2020

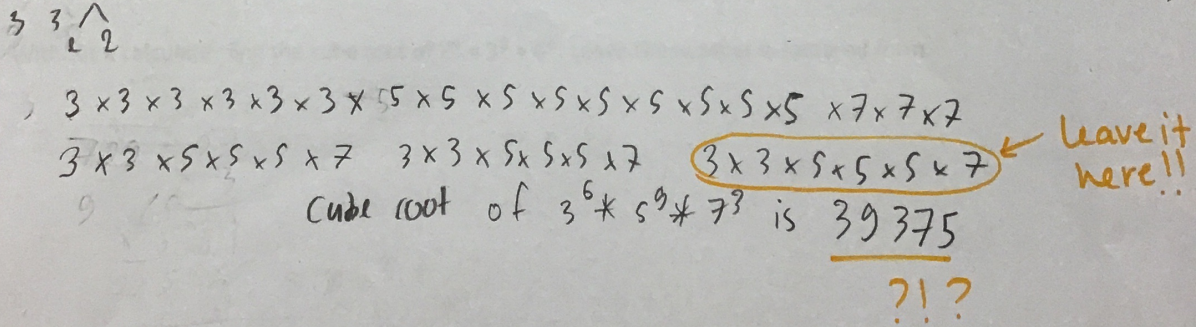
<p><b>Learning Goal 3.2</b></p>	<p>Given a number or set of numbers, identify the prime factorization of each element and use it to find the GCF, LCM, perfect squares or cubes and/or factored form.</p>
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**Daily Check In**





Without a calculator find the square root of 576, if it exists.




Without a calculator find the cube root of  $3^6 * 5^9 * 7^3$ . Leave the number in factored form.



Excellent !!

<p>How did you do? (Circle one)</p>	<p>Emerging </p>	<p>Developing </p>	<p>Proficient </p>	<p>Extending </p>
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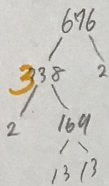
Name: Kitchiro 

Date: 2/4

<b>Learning Goal 3.2</b>	Given a number or set of numbers, identify the prime factorization of each element and use it to find the GCF, LCM, perfect squares or cubes and/or factored form.
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**Daily Check In**

Without a calculator find the square root of 676, if it exists.



$$\frac{26}{\checkmark}$$

$$\begin{array}{r} 13 \\ \times 13 \\ \hline 39 \\ 130 \\ \hline 169 \end{array}$$

Without a calculator find the cube root of  $2^9 * 3^3 * 6^6$ . Leave the number in factored form.





$$\sqrt[3]{2^9 \cdot 3 \cdot 6^2}$$

$$8 \cdot 3 \cdot 36$$

$$8 \cdot 3 \cdot 36$$

$$2^3 \cdot 3 \cdot 6^2 \checkmark$$

Nice Work!!

How did you do? (Circle one)	Emerging 	Developing 	Proficient 	Extending 
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Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Learning Goal 3.2**

Given a number, a set of numbers or a polynomial expression, identify the prime factorization of each element and use it to find the GCF, LCM, perfect squares or cubes and/or factored form.

Algebra tiles are a useful model to get started with – but not sustainable.

- too time consuming
- inconsistent positive/negative (negative area has no meaning)
- 2D is very limiting

1.  $4x + 12$

$$\text{GCF}(4x, 12) = 4$$

$$4x + 12 = 4(x + 3)$$

↑ fully factored  
EXT

$$\text{CF}(4x, 12) = 2$$

$$= 2(\underline{2x} + \underline{6})$$

$$= 2 \times 2(x + 3) \quad \leftarrow \text{factored PRF}$$

$$\frac{4x}{4}$$

2.  $10k + 20$

$$\text{GCF}(10k, 20) = 10$$

$$10k + 20 = 10(k + 2)$$

↑ fully factored.

$$= 2(5k + 10)$$

$$= 5(2k + 4) \quad \left. \vphantom{\begin{matrix} = 2(5k + 10) \\ = 5(2k + 4) \end{matrix}} \right\} \text{factored}$$

3.  $8q^2 + 16$



□ 16

we can't use algebra tiles to make a rectangle.

$$\text{GCF}(8q^2, 16) = 8$$

$$8q^2 + 16 = 8(q^2 + 2)$$

So, to factor a polynomial (or any expression for that matter):

1. Find the GCF of all the terms in the expression.
2. Divide out the GCF from every term.
3. Write the product (GCF)(whatever is left)

**Example**

$$1. \quad 8q^3p^5 - 12q^2p^{10} \quad \text{GCF}(8q^3p^5, -12q^2p^{10}) = 4q^2p^5$$

$$= 4q^2p^5 (2q - 3p^5)$$

$$2. \quad 12ab^2c^3 - 16a^3b^2c + 24a^4b^4c^4$$

$$3. \quad -18w^4x^5yz^2 - 54xy^9z^6 - 72w^{12}x^9y^3 - 7w^2x^8z$$