FACEing MATH® Name: _____

Lesson 8: Prime Factorization, GCF & LCM

Answer the questions in each box showing your work.

Directions: ***Solve each problem. Choose the correct answer.***

1. True or False
All odd #'s are divisible by 3.

(a) If your answer is **True** draw the following head & eyes.	
(b) If your answer is **False** draw the following head & eyes.	

2. True or False
All even #'s are divisible by 2.

(a) If your answer is **True** draw the following body & necklace.	
(b) If your answer is **False** draw the following body & necklace.	

3. Which numbers below are prime?

2,3,5,7,9,11,13,15

(a) If your answer is **3,5,7,9,11,13** draw the following nose & mouth.	
(b) If your answer is **2,3,5,7,11,13** draw the following nose & mouth.	

4. Find the prime factorization. Write in exponent form.

36

(a) If your answer is $2^2 \bullet 3^2$ draw the following sun.	
(b) If your answer is $2^3 \bullet 3^2$ draw the following sun.	

5. Find the prime factorization. Write in exponent form.

45

(a) If your answer is $5 \bullet 9$ write the following # on the necklace.	**15**
(b) If your answer is $3^2 \bullet 5$ write the following # on the necklace.	**12**

6. Find the prime factorization. Write in exponent form.

200

(a) If your answer is $2^2 \bullet 5 \bullet 10$ write the following #'s on the pouch.	**1,3,5,15**
(b) If your answer is $2^3 \bullet 5^2$ write the following #'s on the pouch.	**1,2,3 4,6,12**

7. Find the factors of 20.

(a) If your answer is **1,2,4,5, 10,20** draw the following ground.	
(b) If your answer is **1,2,10,20** draw the following ground.	

8. Find the factors of 36.

(a) If your answer is **1,2,3,4,6,9, 12,18,36** draw the following cactus.	
(b) If your answer is **1,2,3,6,12,36** draw the following tumbleweed.	

9. Find the Greatest Common Factor for 20 & 36.

(a) If your answer is **12** write the following vocabulary word in the box.	**Multiples**
(b) If your answer is **4** write the following vocabulary word in the box.	**Factors**

Directions: ***Solve each problem and COLOR the object that corresponds with your answer.***

10. Find the Greatest Common Factor for 27 & 45.

(a) If your answer is **3** color the inside of ears, tummy & pouch grey.

(b) If your answer is **9** color the inside of ears, tummy & pouch apricot.

11. Will has 24 candy bars and 36 cookies. What is the greatest number of treat bags he can make if each bag has the same number of items?

(a) If your answer is **8** color the heads, arms & legs black.

(b) If your answer is **12** color the heads, arms & legs reddish/brown.

12. Alyssa has 9 markers and 24 pencils. What is the most number of kits she can make if each kit has the same number of items?

(a) If your answer is **3** outline the nose & mouth in black.

(b) If your answer is **9** outline the nose & mouth in red.

13. List the next 3 multiples

8, 16, __, __, __

(a) If your answer is **24,32,40** color the ground brown.

(b) If your answer is **24,36,48** color the ground apricot.

14. List the next 3 multiples

6, 12, 18, __,__,__

(a) If your answer is **21,24,27** color the eyes green.

(b) If your answer is **24,30,36** color the eyes blue.

15. Find the Least Common Multiple for 6 & 15.

(a) If your answer is **30** color the cactus/tumbleweed green.

(b) If your answer is **6** color the cactus/tumbleweed brown.

16. Find the Least Common Multiple for 9 & 12.

(a) If your answer is **72** color the center of the sun orange and the rays red.

(b) If your answer is **36** color the center of the sun yellow and the rays orange.

17. The cafeteria serves pizza every 6th day and tacos every 4th day. If they both were served on May 1st, how many days will it be before they are served on the same day.

(a) If your answer is **12** color the necklace yellow.

(b) If your answer is **24** color the necklace purple.

18. Chicken patties are sold in packs of 8. Buns are sold in packs of 10. What is the least number of chicken patties & buns needed so that no food is wasted?

(a) If your answer is **20** outline all the #'s & words in red.

(b) If your answer is **40** outline all the #'s & words in black.

Artistic Tip: **When you are done coloring, it looks nice to outline the major features using a black crayon or marker.**

Facing Math Vocabulary…