



## ECA Spring Math - Content Test #2 (100 pts) – Fri. May 29th

NAME: \_\_\_\_\_

Instructions: Please read every question carefully and answer ALL parts! No calculators allowed on this test. Make sure to double check your answers. You should be reflecting if your “answer makes sense” on every problem. Please place your name on all pages. Good luck!

1. Find the quotient. Please show all work. (2 points each)

$$0.94\sqrt{1.222}$$

$$23.75\sqrt{6.65}$$

2. The Smith family budgets  $\frac{1}{10}$  of their monthly income on entertainment. Last month, the Smiths spent  $\frac{1}{2}$  of their entertainment budget going to the movies. What fraction of their total income did they spend on going to the movies last month? (2 points) \_\_\_\_\_

3. What is “LCM” and what is the purpose for finding LCM? (2 points)



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4. You are the warehouse supervisor for a large printing company. You need a certain kind of paper to print brochures like the new ECA-designed “Note-Taking” brochures. You have a total of  $1\frac{1}{2}$  rolls of this type of paper for printing brochures. You have three jobs that utilize this paper today. One job requires  $\frac{1}{4}$  roll, another requires  $\frac{2}{5}$  roll, and the third needs  $\frac{1}{2}$  roll. Are you overstocked or understocked for the jobs? \_\_\_\_\_ By how much? \_\_\_\_\_ (2 points each question)

5. Use the rules of divisibility to complete the chart. Place an “X” in the box if the number on the left is divisible by the number on the top of the chart. (1 point per number).

| Divisible by: |   |   |   |   |   |   |   |    |    |
|---------------|---|---|---|---|---|---|---|----|----|
| Number        | 2 | 3 | 4 | 5 | 6 | 8 | 9 | 10 | 12 |
| 75            |   |   |   |   |   |   |   |    |    |
| 156           |   |   |   |   |   |   |   |    |    |
| 924           |   |   |   |   |   |   |   |    |    |
| 1,020         |   |   |   |   |   |   |   |    |    |
| 5,784         |   |   |   |   |   |   |   |    |    |

6. Find the prime factorization of the following numbers (2 points each). (HINT=“factor trees”)

a.  $8 =$  \_\_\_\_\_    b.  $86 =$  \_\_\_\_\_    c.  $153 =$  \_\_\_\_\_    d.  $675 =$  \_\_\_\_\_



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7. Please define the following terms and give an example of each. (2 point each)

A. *GCF*

Definition: \_\_\_\_\_

Example: \_\_\_\_\_

B. *Equivalent Fractions*

Definition: \_\_\_\_\_

Example: \_\_\_\_\_

C. *Mixed Numeral*

Definition: \_\_\_\_\_

Example: \_\_\_\_\_

D. *Improper Fraction*

Definition: \_\_\_\_\_

Example: \_\_\_\_\_

E. *Fraction*

Definition: \_\_\_\_\_

Example: \_\_\_\_\_

8. Round 2745.609456

- to the nearest hundred \_\_\_\_\_,
- the nearest tenth \_\_\_\_\_,
- the nearest thousandth \_\_\_\_\_,
- the nearest whole number \_\_\_\_\_, and
- the nearest hundred-thousandth \_\_\_\_\_. (1 point each)



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9. The Weakland family has some extra money to invest in the stock market. Each person invested the following amounts for a total of \$100,000. Please prepare a pie chart showing the percent allocation amongst the family members. *It is NOT expected that this pie chart be drawn to accurate scale.* HOWEVER, you need to make sure you have all the ingredients of a good pie chart! (3 points).

| Total \$   | Name  |
|------------|-------|
| 21,500.00  | Laura |
| 19,500.00  | Brent |
| 32,800.00  | Jacob |
| 26,200.00  | Ken   |
| 100,000.00 |       |

What FRACTION (in lowest terms) of the total does Laura own? \_\_\_\_\_. (2 points).

10. Evaluate the following expressions (2 points each):

a.  $\frac{1}{4} \cdot \frac{3}{10} =$  \_\_\_\_\_

b.  $\frac{3}{4} \div \frac{3}{12} =$  \_\_\_\_\_

11. Find the GCF of the following sets of numbers. Use the VENN diagram method. (2 point each)

a.  $(56, 64) =$  \_\_\_\_\_

b.  $(12, 15) =$  \_\_\_\_\_



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12. Simplify the following fractions. (2 points each).

a.  $390/410 =$  \_\_\_\_\_

b.  $12/15 =$  \_\_\_\_\_

13. Change the following mixed numerals to improper fractions. (2 points each).

a.  $5 \frac{3}{4} =$  \_\_\_\_\_

b.  $2 \frac{3}{4} =$  \_\_\_\_\_

14. Change the following improper fractions to mixed numerals. (2 points each).

a.  $32/6 =$  \_\_\_\_\_

b.  $52/3 =$  \_\_\_\_\_

15. Change the following fractions to decimals. (2 points each).

a.  $15/25 =$  \_\_\_\_\_

b.  $1/6 =$  \_\_\_\_\_

16. Change the following decimals to fractions. (2 points each).

a.  $0.75 =$  \_\_\_\_\_

b.  $1.05 =$  \_\_\_\_\_



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17. Please place the following decimals in order from *smallest to largest*. (4 points)

0.600

0.0065

1.6

0.060

0.0645

18. Find the LCM of the following sets of numbers. Use the VENN DIAGRAM method. (2 points each)

a.  $(30, 70) =$  \_\_\_\_\_

b.  $(12, 15) =$  \_\_\_\_\_

19. Find the LCM of the following sets of numbers. Use the DIVISION OF PRIMES (“staircase”) method. (2 points each)

a.  $(15, 35) =$  \_\_\_\_\_

b.  $(12, 15, 20) =$  \_\_\_\_\_

20. Evaluate the following expressions (2 points each):

a.  $1 \frac{3}{4} + 2 \frac{1}{6} =$  \_\_\_\_\_

b.  $\frac{2}{9} - \frac{1}{3} =$  \_\_\_\_\_



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21. Evaluate the following expressions (2 points each):

a.  $0.24 \cdot 100 =$  \_\_\_\_\_

b.  $0.15 \cdot 20 =$  \_\_\_\_\_

22. Evaluate the following expressions (2 points each):

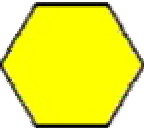

a.  $0.24 + 1.79 =$  \_\_\_\_\_

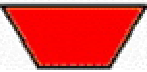
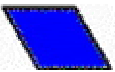
b.  $\$225.25 - \$13.32 =$  \_\_\_\_\_

23. What is  $\frac{2}{3} \cdot \frac{4}{5}$ ? \_\_\_\_\_. (2 points) Draw a pictorial representation. (1 point)

24. Did you check and double check you answers? If so, answer yes for 1 point \_\_\_\_\_. If not, go back and double check your answers.....I'm waiting.....Okay...did you double check your answers? If so, answer yes for 1 point \_\_\_\_\_. If not, skip the 1 point and try for the bonus points....Have a great weekend!

### **Bonus (1 point each)**

If  = 1,  = \_\_\_\_\_.

If  = 1,  = \_\_\_\_\_.

### **Bonus (2 points each)**

- Fill in the blanks so that the number is divisible by 9: 12,506,3\_\_ \_
- Find a 5-digit number that divides by 2, 4 and 9, but not 10. \_ \_ \_ \_ \_