Math 20: Arithmetic

Exam 5

Date:_____ Name:_____

Raw Score: _____/ _____= _____ % **MWF** **MW** **TR**

No Calculators or electronic devices allowed. Closed to all resources except pencil, scratch paper, Napier's bones, and blank lattice sheets if you brought them. Notes, Books, and consulting with another person is strictly verboten. Please show all work on this exam. Box all answers! If you have read these instructions then please play one game of hangman with yourself in a blank spot to the right. (did you guess the correct word?)

All problems are worth 2 pts each

1. T/F All of these are true: $3\left(\frac{1}{2}\right) = \frac{3}{2}$ and $0.5\left(\frac{1}{2}\right) = \frac{0.5}{2}$ and $?\cdot\left(\frac{1}{2}\right) = \frac{?}{2}$

2. T/F $\frac{5}{6} = \frac{20}{24}$ & $\frac{9}{5} = \frac{27}{15}$ are both proportional ratios

3. T/F $11.50\frac{\$}{day}, 55\frac{mi}{hr}, and\ \frac{4ft}{3ft}$ are all examples of rates.

4. T/F All decimals can be expressed as Rational numbers (i.e. the set of positive and neg. fractions).

5. (4 pts)Match each topic with its correct letter (each topic has only one letter)

a. The def of proportaion	
b. Multiplying by 100	
c. Dividing by 1000	
d. The def of rate	
e. The def of ratio	
f. Rational Numbers	

a) the statement that two ratios or rates are equal
b) the quotient of two quantities that are equal
c) the quotient of two numbers with different units
d) $\{all\ fractions\ where\ the\ numerator\ \&\ denominator\ are\ \boldsymbol{integers}\ and\ the\ denominator\ is\ not\ 0\}$
e) the quotient of two numbers with the same units
f) thequotient of two numbers
g) $\{-4,-3,-2,-1,0,1,2,3,4\}$
h) $\left\{\frac{a}{b}\ where\ a\ \&b\ are\ \boldsymbol{real}\ numbers\right\}$
i) moves the decimal two places to the left
j) moves the decimal two places to the right
k) moves the decimal three places to the left
l) moves the decimal three places to the right
m) moves the decimal 1 place to the right

Express these fractions as a percent, do not round them! Box your Answer!

6. $\frac{2}{5} =$

8. $\frac{-3}{15} =$

10. $\frac{.0060}{.015} =$

7. $\frac{3}{8} =$

9. $\frac{8}{9} =$

11. $\frac{2.15}{4.3} =$

Express these decimals as a percent. Box you Answer!

12. .91

14. 5.545

16. 46.38

13. .0765

15. 0.0002

Express these percents as a decimal. Box Your Answer!

17. 66%

19. $33\frac{1}{3}\%$

21. 564.36%

18. 6.543%

20. 0.543%

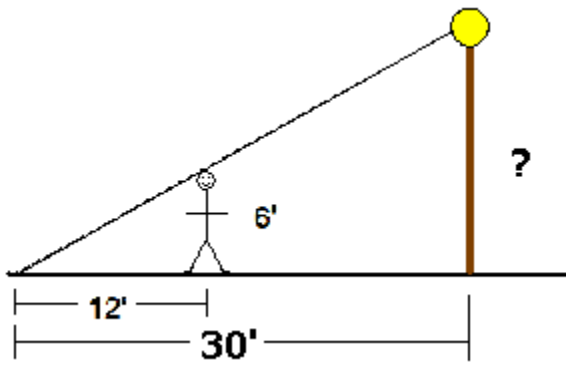
22. $3\frac{2}{9}\%$

Solve these proportion problems for the unknown value of ?

23. $\frac{3}{4} = \frac{?}{12}$

24. $\frac{5}{?} = \frac{7}{21}$

25.



Consider the above diagram which illustrates the ratio of the height of a person to the length of their shadow. Use proportions to find the height of the streetlight.

26. The proper dosage of YUK brand cough syrup for a 10 lb child is 1 1/8 oz. Find the proper dosage for a 25 lb child.

Folsom Lake College

Math 20

Please put all answers on the provided blank.

1 yd = 3 ft
1 mi = 5280 ft
1 mi = 1.6 km
1 ft = .305 m
1 lb = .454 kg
1 pt = 2 cup
1 cup = 8 fl. oz

27. $What\ number\ is\ 23\%\ of\ 300?$ _____

28. $75\ is\ what\ percent\ of\ 25?$ _____

29. 5.5 is 44% of what number _____

30. $\frac{1}{2}\%\ of\ what\ number\ is\ 1000?$ _____

31. Find $1\frac{1}{4}\%\ of\ 400.$ _____

32. Add the base ten numbers 11_{10} and 111_{10}, in base 7. Express your answer in base 7.

33. Convert the decimal .5555555… into a single fraction

34. Convert the decimal . 323232… into a single fraction

35. Convert the decimal .0323232… into a single fraction

Convert the following:

36. 5.5 yd = _____ft

37. 5.4 kL = _____ L

38. 50 mi = _____ km

39. 5 pt = _____ fl. Oz

40. 5.5 yd = _____ m
(40. round answer to the tenth)

41. 20 lb = _____ g

42. 0° Fahrenheit = _____ Celsius.

$$F = \frac{9}{5}(C) + 32$$

$$C = \frac{5}{9}(F - 32)$$

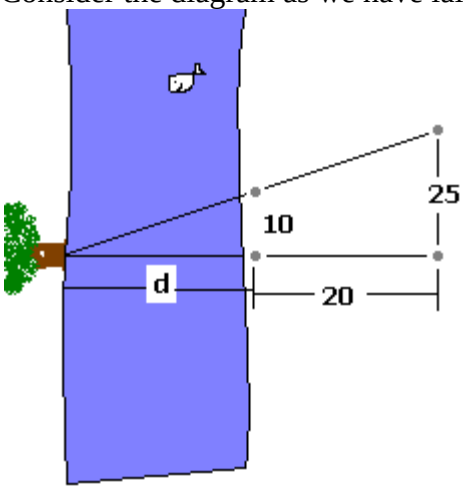
43. 3 yd^2 = _____ ft^2

44. $\frac{0}{\sqrt{4}} =$ _____

45. $\frac{\sqrt{.25}}{0} =$ _____

Extra Credit:

EC1) You are trying to cross a river and have only your clothes, wit and your 36" shoelace to aide you. Consider the diagram as we have laid out in class. For 4 pts, find d, the distance across the river.



EC2) Fun Free Joke. Any answer gets full credit. No credit if you leave it blank. Tell your favorite clean joke