

Name: _____

Heatherwood Mathletes
Heatherwood Math Olympics 2004-2005: Test 2 for Purple Belts
February 24, 2005

A. Mixed Addition and Subtraction (2 points each)

$$\begin{array}{r} 22 \\ + 15 \\ \hline \end{array}$$

$$\begin{array}{r} 58 \\ - 21 \\ \hline \end{array}$$

$$\begin{array}{r} 78 \\ + 44 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ - 48 \\ \hline \end{array}$$

Addition/Subtraction Word Problem (4 points)

Thirty-two penguins were sitting on a cliff. Eleven dived into the water. How many were left on the cliff?

B. Multiplication (3 points each)

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 17 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ \times 18 \\ \hline \end{array}$$

C. Division (express fractions in simplest terms) (3 points each)

$$9/3 =$$

$$49/7 =$$

$$43/7 =$$

$$66/8 =$$

Multiplication/Division Word Problem (4 points)

Alice and Beth picked some apples. Alice picked one-third as many as Beth. Beth picked 15. How many apples did Alice pick?

D. Adding and Subtracting Fractions (3 points each)

$$\frac{1}{3} + \frac{1}{3} =$$

$$\frac{1}{3} - \frac{1}{6} =$$

$$\frac{3}{7} + \frac{2}{3} =$$

$$\frac{2}{3} - \frac{5}{12} =$$

E. Multiplying and Dividing Fractions (3 points each)

$$\frac{1}{2} \times \frac{1}{2} =$$

$$\frac{3}{7} \times \frac{2}{3} =$$

$$1\frac{1}{2} \times \frac{1}{3} =$$

$$\frac{2/5}{3/2} =$$

Fraction Word Problem (4 points)

Matthew's class has 20 students. Half the students study math, a quarter study science, and the rest read. How many students read?

F. Solve for x (4 points each)

$$x + 7 = 10$$

$$5x + 10 = 30$$

$$5x - 10 = 11$$

G. Write the Equation (5 points)

Write the equation for the following problem. Don't solve it. What is the number that when you multiply it by 5 and add 5 you get 25?

H. Advanced Word Problems (5 points each)

Problem 1. Now solve the previous problem. What is the number that when you multiply it by 5 and add 5 you get 25?

Problem 2. Two students together weigh 150 pounds? One student is 10 pounds heavier than the other. How much does the heavier student weigh?

Problem 3. Consecutive numbers are whole numbers that follow in order, like 7,8,9,10,11,12. Find three consecutive numbers such that the sum of the first and the third is 32.