Math for Elementary School Teachers I
MATH 320
Exam 2
Spring 1994

Name _____

(6) 1. (a) Add:

$$\begin{array}{r} 2433_{\text{five}} \\ +\ \underline{3442_{\text{five}}} \end{array}$$

(6) (b) Multiply:

$$\begin{array}{r} 11011_{\text{two}} \\ \underline{\times 111_{\text{two}}} \end{array}$$

(6) (c) Subtract:

$$\begin{array}{r} 479T2_{\text{twelve}} \\ \underline{97TE_{\text{twelve}}} \end{array}$$

(6) (d) Divide: $32_{\text{four}}\overline{)1331_{\text{four}}}$ (Show the quotient and remainder.)

2. Find the remainder when

$$432,798,126,438$$

(4) (a) is divided by 3

(4) (b) is divided by 9

(4) (c) is divided by 11.

Show your work.

(5) 3. (a) What is the additive inverse of $^{-}2 \cdot ^{-}7$?

(5) (b) What is the multiplicative inverse of $\frac{-2}{5}$?

(5) (c) Which fraction is greater:

$$\frac{17}{10} \quad \text{or} \quad \frac{23}{14}$$

Show your work.

(6) 4. (a) Why do we extend $\mathbb{W}$ to $\mathbb{Z}$? Give two reasons.

(6) (b) Why do we extend $\mathbb{Z}$ to $\mathbb{Q}$? Give two reasons.

5. Perform the indicated operations:

(5) (a) $\dfrac{^-2}{3} + \dfrac{4}{5}$

(5) (b) $\dfrac{^-3}{4} - \dfrac{^-2}{5}$

(5) (c) $\dfrac{^-2}{5} \cdot \dfrac{^-3}{4}$

(5) (d) $\dfrac{^-2}{5} \div \dfrac{4}{9}$

6. Solve for x:

(5) (a) $3x - 7 =^{-} 20$

(5) (b) ${}^{-}4x + 5 < 7$

(5) 7.

If point C is half way between A and B, what is the coordinate of C?

(2) 8. A number is its own multiplicative inverse. What is it?