

Introduction to Mth 01

1.

In this course we get used to working with numbers. These numbers can be positive or negative, whole numbers or fractions, decimals and percents. We'll look at applications and also start some algebra at the end.

Chapter 1.



whole numbers

Operations $+$, $-$, \times , \div

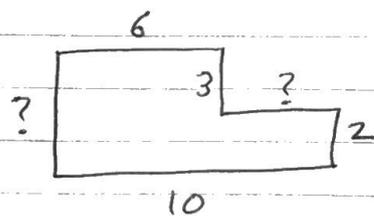
examples: $10 - 4 + 5 =$

$$8^0 =$$

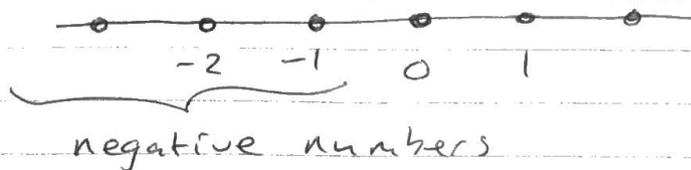
$$0 \div 8 =$$

$$8 \div 0 =$$

Find missing side lengths:



Chapter 2.

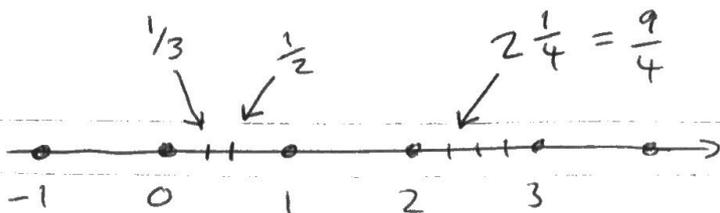


$$-3 + (-9) =$$

$$-3 - (-9) =$$

$$(-3)(-9) =$$

Chapter 3



fractions and mixed numbers

$$\frac{1}{2} + \frac{1}{3} = \frac{2}{5} ? \quad \text{No}$$

$$\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$$

need LCD (LCM of 2, 3 is 6)

More examples

LCM of 10 and 6 is 30

GCF of 10 and 6 is 2

→ can use to cancel: $\frac{6}{10} = \frac{3}{5}$

Chapter 4

Decimals are another way to represent fractions

$$\frac{7}{10} = 0.7$$

$$\frac{3}{1000} = 0.003$$

$$\frac{1}{8} = 0.125 \quad \text{why?}$$

+ , - , × , ÷

$$12.5\% = \frac{125}{1000} = \frac{1}{8}$$

percents

2.

Chapter 5 Can also think of fractions as ratios, comparing two numbers.

$$\frac{3}{5} = \frac{6}{10} \text{ is called a } \underline{\text{proportion}}$$

If one of the numbers is missing, can you find it

$$\frac{3}{5} = \frac{6}{?}$$

Applications, word problems.

Chap 6 In algebra we use x or y to represent a number.

Examples

- Compute $x^3 - 3x + 7$ if $x = -2$

- Solve for x : $2(3+x) = -5x + 20$

The first computes to 5 and in the second x must be 2.