Lesson 5: Absolute Value & Addition of Signed Numbers using a Number Line

Absolute Value

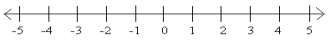
Absolute Value: a number's distance from zero

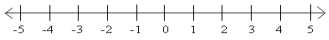
|-3| = |3| = |0| =

Ex 5.1 Simplify:

a. |-5| b. |11 – 2| c. -|20 – 2|

Addition of Signed Numbers using a Number Line

Ex 5.2: 3 + (-5) 

Ex 5.6: (-4) + 2 + (-1) + 5 

Lesson 6-7: Integer Addition, Adding more than Two Numbers, Integer Subtraction

Integer Addition

Rule 1: Same sign: add the absolute values and keep the sign

Ex 6.1: 1 + 3 (-1) + (-3)

Rule 2: Different signs: take their absolute values, subtract the lesser from the greater, keep the sign from the one with the greater absolute value

Ex 6.2: (-2) + 5 (+2) + (-5)

Adding more than Two Numbers

- add those with same sign first

Ex 6.4: (-3) + 2 + (-2) + 4

Integer Subtraction

- change the subtraction sign to addition, and make the next term its opposite (add the opposite (L7))

From the L6 practice set:

a. -5 – 2 + 7 – 6 d. -8 + |-6| - |5| - 7

Double negative = positive

Ex 7.3: -(-4) + (-2) – [-(-6)]

Lesson 8: Area

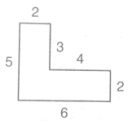
Rectangles & Squares

Rectangle: length x width	Square: side^2

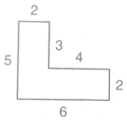
Irregular shapes: break into shapes you know the area of

Ex 8.1: Find the area of this figure. All angles are right angles. Dimensions are in centimeters.

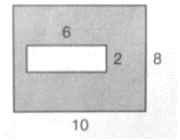
Method 1



Method 2



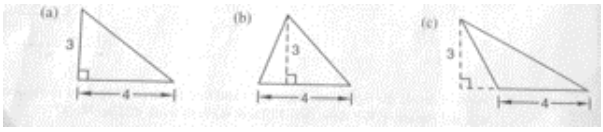
Ex 8.2 Find the area of the shaded portion of this figure. All angles are right angles. Dimensions are in meters.



Triangles

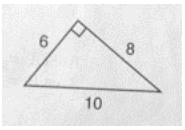
$$A = \frac{\text{base} \times \text{height}}{2} \quad \text{or} \quad A = (\tfrac{1}{2})(\text{base})(\text{height})$$

Ex 8.3: Find the areas of these triangles. Dimensions are in inches.

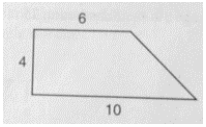


>>Base can be any side!<<

Ex 8.4: Find the area of this right triangle. Dimensions are in feet.



Ex 8.5: Find the area of this figure. Corners that look square are square. Dimensions are in yards.



Circles

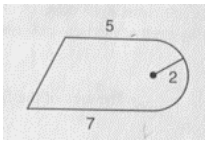
$$A = \pi r^2$$

$\pi = 3.14$

Ex 8.6: The radius of a circle is 3 centimeters. Find the area of the circle.

Ex 8.7: The area of a circle is 25 square meters. Find the radius of the circle.

Ex 8.8: Find the area of this figure. Lines that look parallel are parallel. Dimensions are in inches.

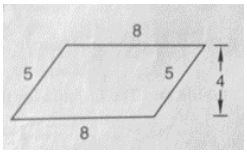


Parallelograms

A = base x height

or break into two triangles

Ex 8.9: Find the area of this parallelogram. Dimensions are in centimeters.



Trapezoids

-break into two triangles for area

Ex 8.10: Find the area of this trapezoid. Dimensions are in meters.