

IM1 Problem Set 6 - Daily Tasks

Task 1	Task 2	DC
Put solutions to problems from the previous Problem Set on the board	Discuss all problems and come to a consensus. Record solutions in your notebooks and present solutions.	DC

Problem Set 6

6.1	<p>For the pairs of points listed here (i) (1,2) and (1,-7); (ii) (-3,-4) and (6,-4); (iii) (-2,7) and (5,-3)</p> <p>a. Graph the pair.</p> <p>b. Find the slope between the two points.</p> <p>c. Determine the equation of the line through these pairs of points.</p>
6.2	<p>For the pairs of points listed here (i) (1,2) and (1,-7); (ii) (-3,-4) and (6,-4); (iii) (-2,7) and (5,-3)</p> <p>a. Find the distance between the two points.</p> <p>b. Find the midpoint between the two points</p>
6.3	<p>Evaluate the following numerical expressions:</p> <p>a. $4 - 6^2 \div 9 \times 2$ b. $4 - 6^2 \div (9 \times 2)$ c. $(4 - 6^2) \div 9 \times 2$</p>
6.4	<p>Solve each of the following algebraically and graphically:</p> <p>a. $5 - 2(x - 2) = 7(2 - x)$ b. $\frac{2x-3}{-5x+1} = -\frac{1}{3}$ c. $4x + 7 = \frac{x-5}{2}$</p>
6.5	<p>Sketch graphs of the following functions. Use your TI-84 to prepare the graphs, then sketch these graphs into your notebooks. Determine and then label the x- and y-intercepts.</p> <p>a. $y = -\frac{2}{3}x + 18$ b. $3x - 6y = 48$</p>
6.6	<p>One value for x that is a solution to the inequality $2x + 5 \geq 17$ is 7 because if we replace x with 7, we get $2(7) + 5 = 14 + 5 = 19$, which is greater than 17.</p>

- List at least ten additional values for x that are solutions to the inequality.
- What is the least possible value we could use for x that is still a solution to the inequality?
- How could we use the graph of $y = (2x + 5) - 17$ to help answer this question?

6.7

How high up on the wall will a 10-meter ladder touch if the foot of the ladder is placed 2 meters from the base of the wall? To solve the problem **Hanna** and **Karim** both did the following work. Please answer the following questions.

- What formula are they using?
- Who is correct?

Hanna's Work

$$2^2 + b^2 = 10^2$$

$$4 + b^2 = 100$$

$$b^2 = 96$$

$$\sqrt{b^2} = \sqrt{96}$$

$$b = 9.8 \text{ m} = \text{How high up the ladder goes.}$$

Karim's Work

$$2^2 + 10^2 = c^2$$

$$4 + 100 = c^2$$

$$104 = c^2$$

$$\sqrt{104} = \sqrt{c^2}$$

$$10.2 = c = \text{How high the ladder goes.}$$

6.8

In baseball and softball statistics, a player's **slugging ratio** is defined to be $SR = \frac{s+2d+3t+4h}{b}$, where s is the number of singles, d the number of doubles, t the number of triples and h the number of home runs obtained in b times at bat. Peyton hit 12 singles, 4 doubles, 2 triples, and 8 home runs last season, and had a 0.560 slugging ratio (SR). How many times did Peyton comes up to bat last season?

Challenge Question

Would you rather have your weight in pennies or your height in quarters?