

Student Worksheet

Problem: Panther Electronics is going to build computers for the students of the new high school. Two types will be produced: a laptop and a desktop. The laptop requires 1 hour putting the components together and 3 hours to test the components. The desktop requires 2 hour putting the components together and 1 hour to test the components. The maximum number of any type they can make in one week is 6 and each week the company is allotting 10 hours for putting the components together and 14 hours for testing. Write the constraints and sketch the graph that shows the feasible region of the points that represent the number of laptops and desktops that can be made. If the profit on a laptop is \$40 and the profit on a desktop is \$50, how many of each computer should be made each week to make a profit?

- Page 1.5: Fill in the table for the constraints.

Let x = number of laptops

Let y = number of desktops

constraint	number of x's	number of y's	maximum
putting components together			
testing			
number of computers made per week			

- Page 1.5 *extension*: Now work out the inequations for each constraint.

putting components together: _____

testing: _____

number of computers made per week: _____

- Page 1.6: Solve the inequations in terms of the variable y .

$$x + 2y \geq 10$$

$$3x + y \geq 14$$

$$x + y \geq 6$$

