
Shelves

This problem gives you the chance to:

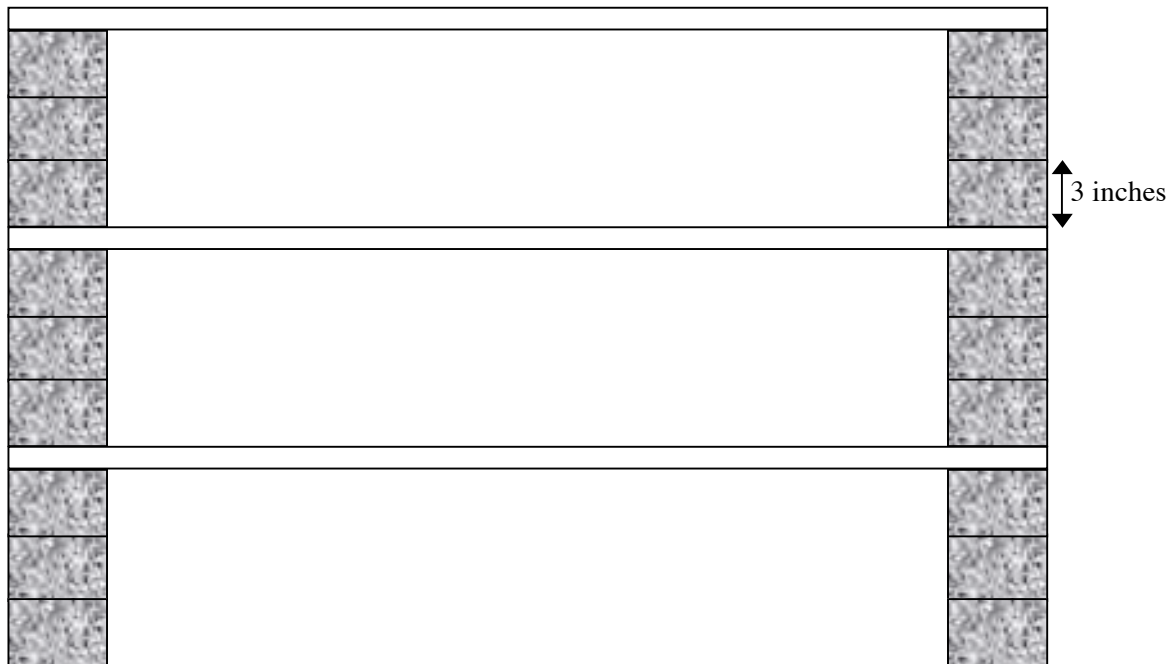
- solve problems in a spatial context
 - identify and distinguish the four point graphs related to this situation
-

Pete is making a bookcase for his books and other stuff.

He already has plenty of bricks and can get planks of wood for \$2.50 each.

Each plank of wood measures 1 inch by 9 inches by 48 inches. Each brick measures 3 inches by 4.5 inches by 9 inches.

For each shelf, Pete will put three bricks at each end then put a plank of wood on top. The diagram shows three shelves.



1. Pete wants five shelves in his bookcase.

a. How many planks of wood does he need? _____

b. How many bricks does he need? _____

c. How high will the shelves be? _____

d. How much will the bookcase cost? _____

The diagram below shows graphs with the following descriptions:

Description One: The cost of the bookcase against the number of shelves.

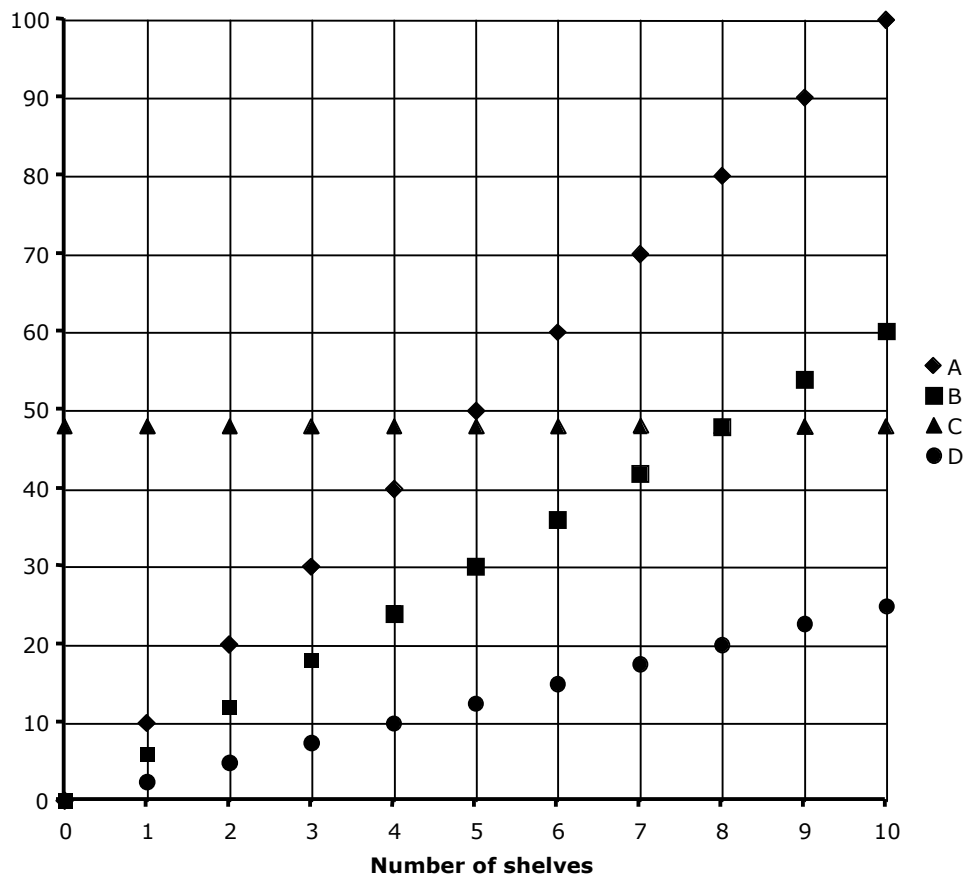
Description Two: The number of bricks against the number of shelves.

Description Three: The height of the bookcase against the number of shelves.

Description Four: The width of the bookcase against the number of shelves.

The equations of the graphs are

$y = 48$, $y = 10x$, $y = 6x$, $y = 2.5x$



2. Complete this table to match each graph with its description and its equation.

Graph letter	Description number	Equation
A		
B		
C		
D		

Task 4: Shelves

Rubric

The core elements of performance required by this task are:
 solve problems in a spatial context
 identify and distinguish the four point graphs related to this situation

points

section
points

Based on these, credit for specific aspects of performance should be assigned as follows

1. Gives correct answer: **5**
 Gives correct answer: **30**
 Gives correct answer: **50** inches
 Gives correct answer: **\$12.50**

1

1ft

1ft

1ft

4

2. Four points for eight correct answers.

4

Graph letter	Description number	Equation
A	3	$y = 10x$
B	2	$y = 6x$
C	4	$y = 48$
D	1	$y = 2.5x$

Partial credit

7 or 6 correct 3 points

5 or 4 correct 2 points

3 or 2 correct 1 point

(3)

(2)

(1)

4

Total Points

8