

# Shelves

T1

This problem gives you the chance to:

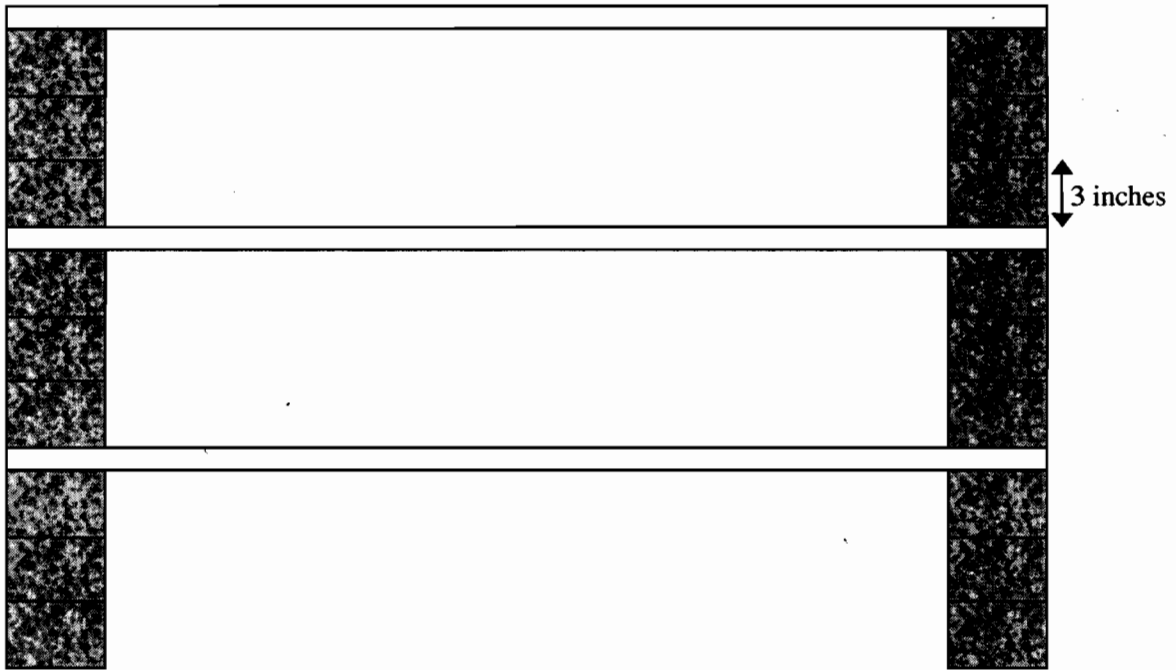
- solve problems in a spatial context
- identify and distinguish the four point graphs related to this situation

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? 9 inches apart

d. How much will the bookcase cost?

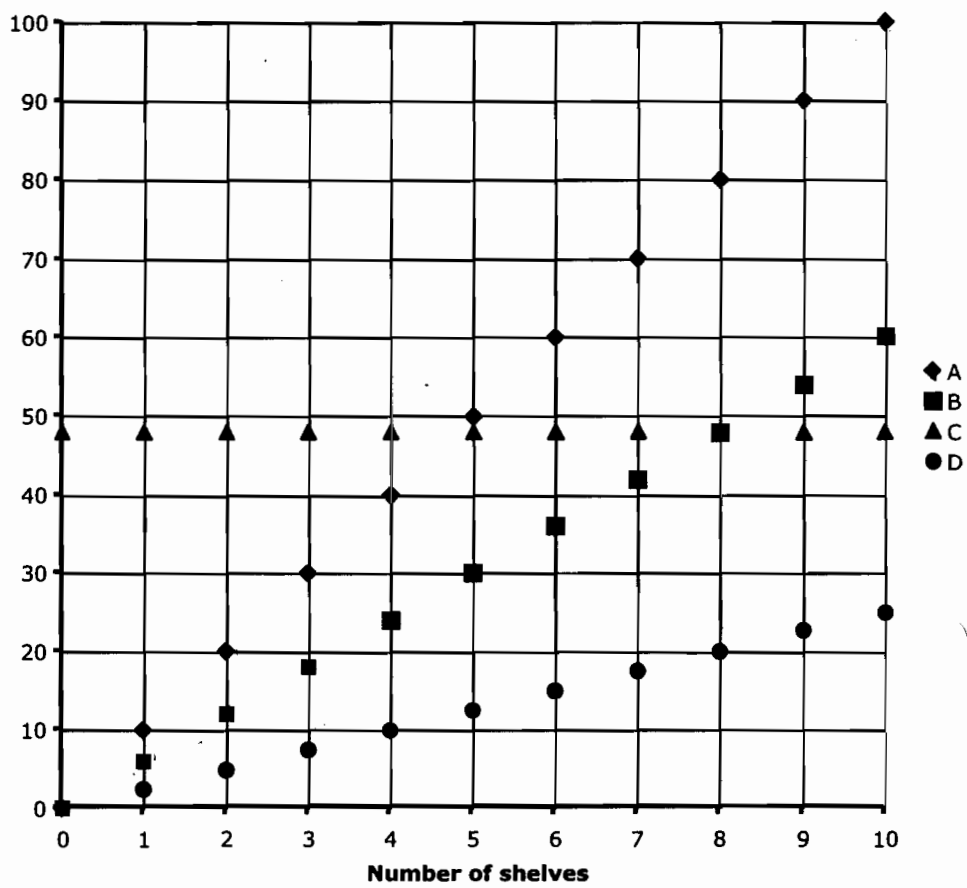
5 ✓  
30 ✓  
50 inches high ✓  
\$12.50 ✓

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	3 ✓	$y = 10x$ ✓
B	2 ✓	$y = 6x$ ✓
C	4 ✓	$y = 48$ ✓
D	1 ✓	$y = 2.5x$ ✓

4  
8  
8

# Shelves

# T2

This problem gives you the chance to:

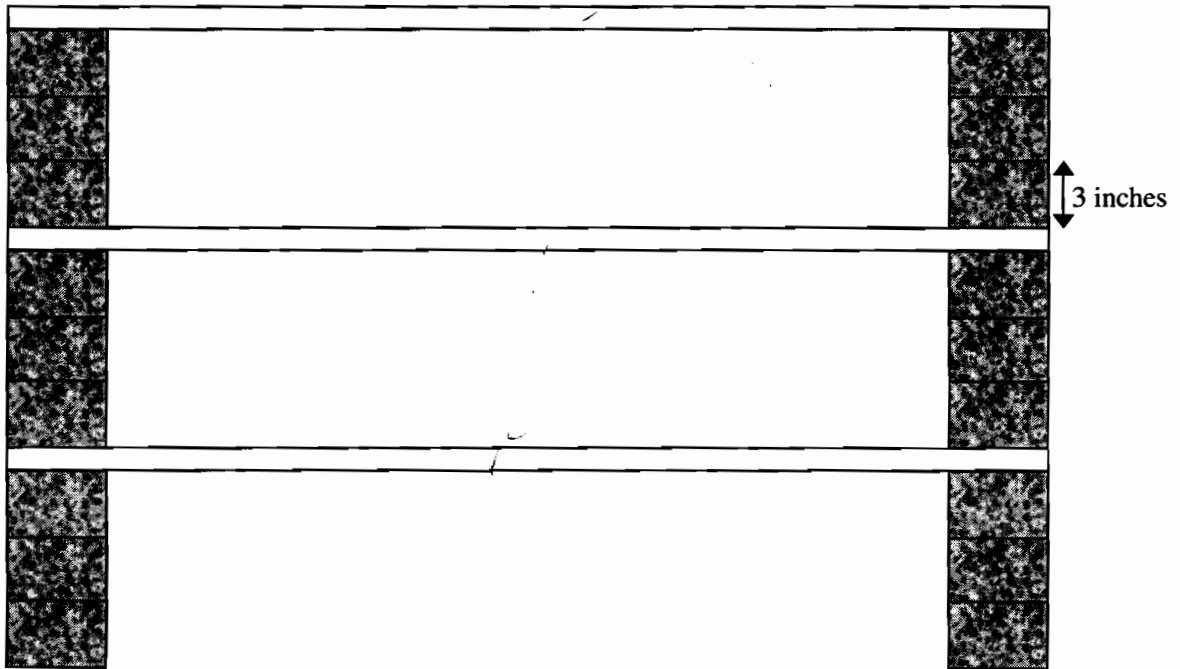
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For each shelf, Pete will put three bricks at each end then put a plank of wood on top. The diagram shows three shelves.



1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

5	/	1
30	/	1
9 in	x	0
\$12.50	/	1

The diagram below shows graphs with the following descriptions:

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

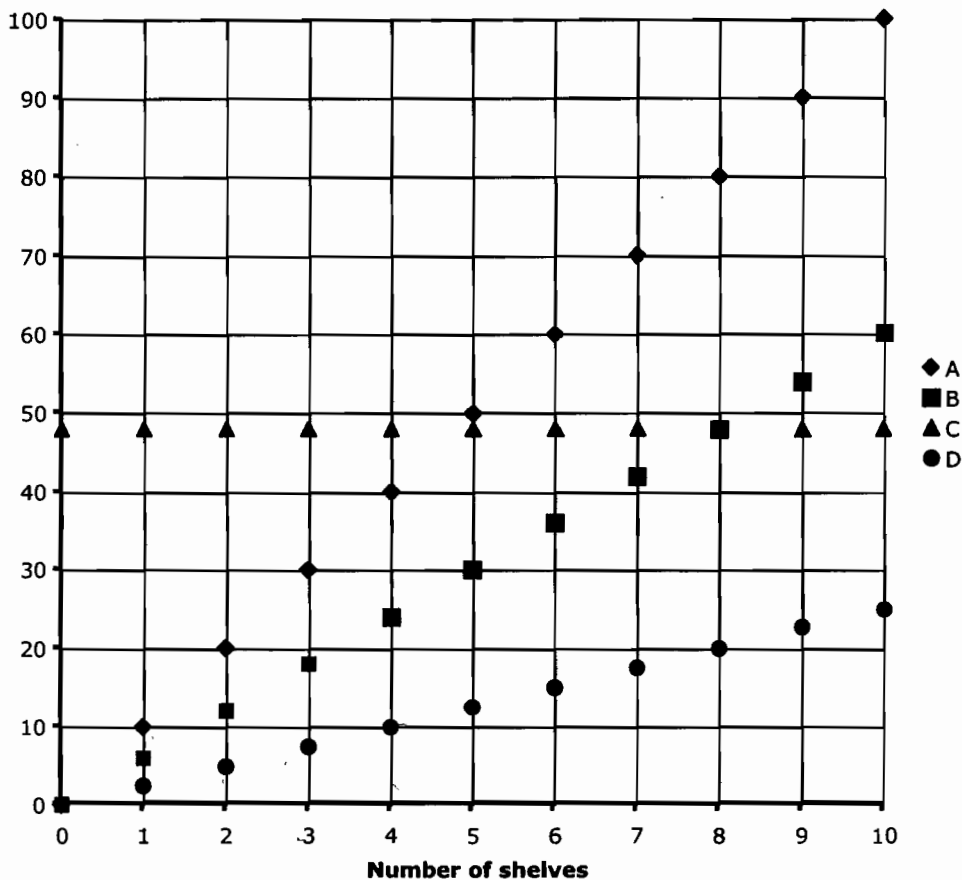
Description Two: The number of bricks against the number of shelves.

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	2 ✓	$y = 6x$ ✓
B	3 ✓	$y = 10x$ ✓
C	4 ✓	$y = 48$ ✓
D	1 ✓	$y = 2.5x$ ✓

(2)

# Shelves

# T3

This problem gives you the chance to:

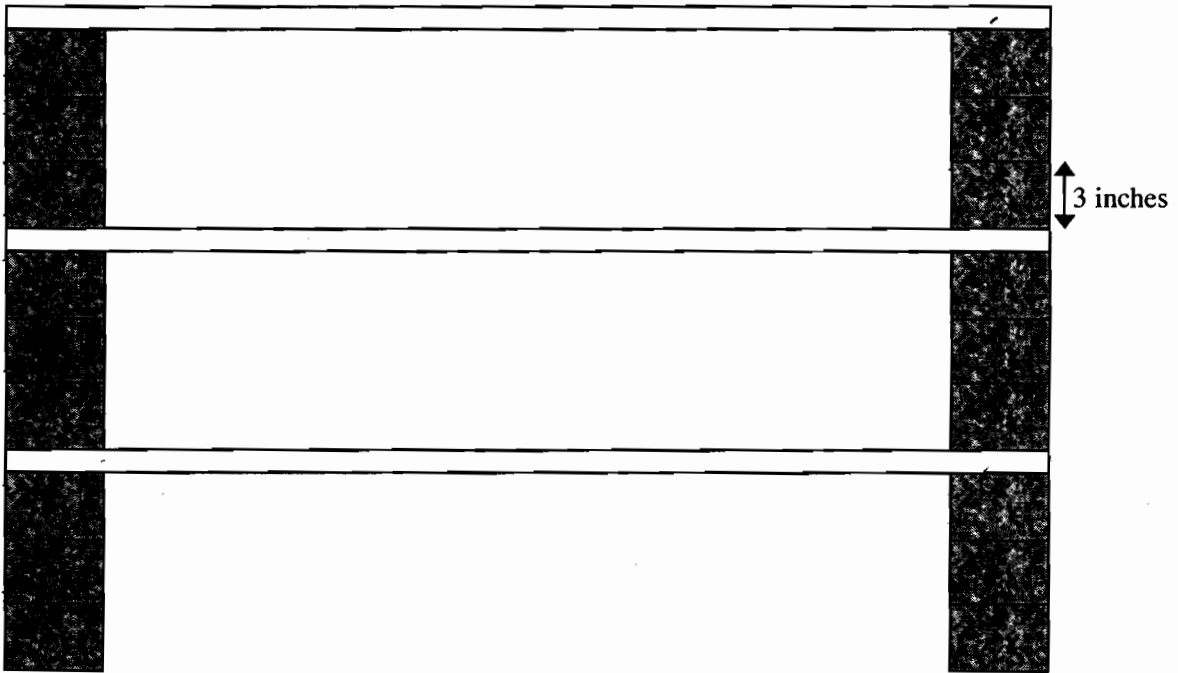
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1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

6	x	0
36	✓	1ft
5 ft.	✓	1ft
\$15	✓	1ft

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 books 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.

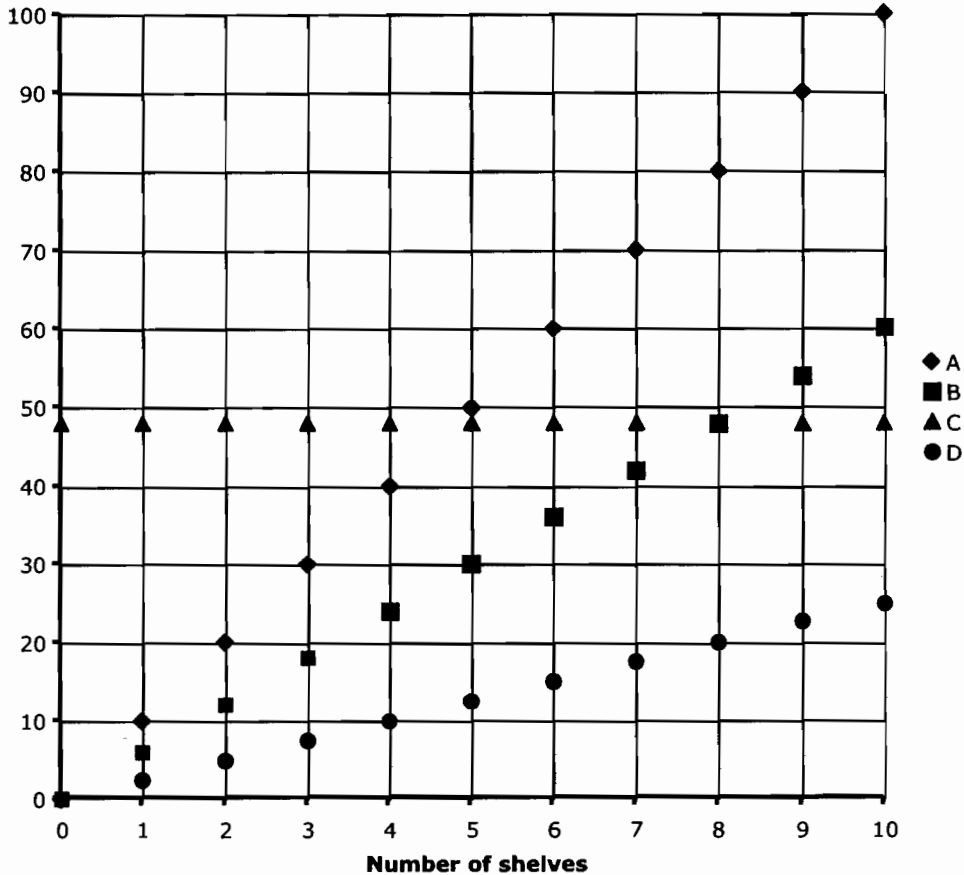
The equations of the graphs are

$y = 48,$

~~$y = 10x,$~~

$y = 6x,$

~~$y = 2.5x$~~



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

Graph letter	Description number	Equation
A	<del>III</del> ✓	$y = 10x$ ✓
B	I x	$y = 6x$ ✓
C	<del>IV</del> ✓	$y = 48$ ✓
D	<del>II</del> x	$y = 2.5x$ ✓

(3)  
6  
8

# Shelves

# T4

This problem gives you the chance to:

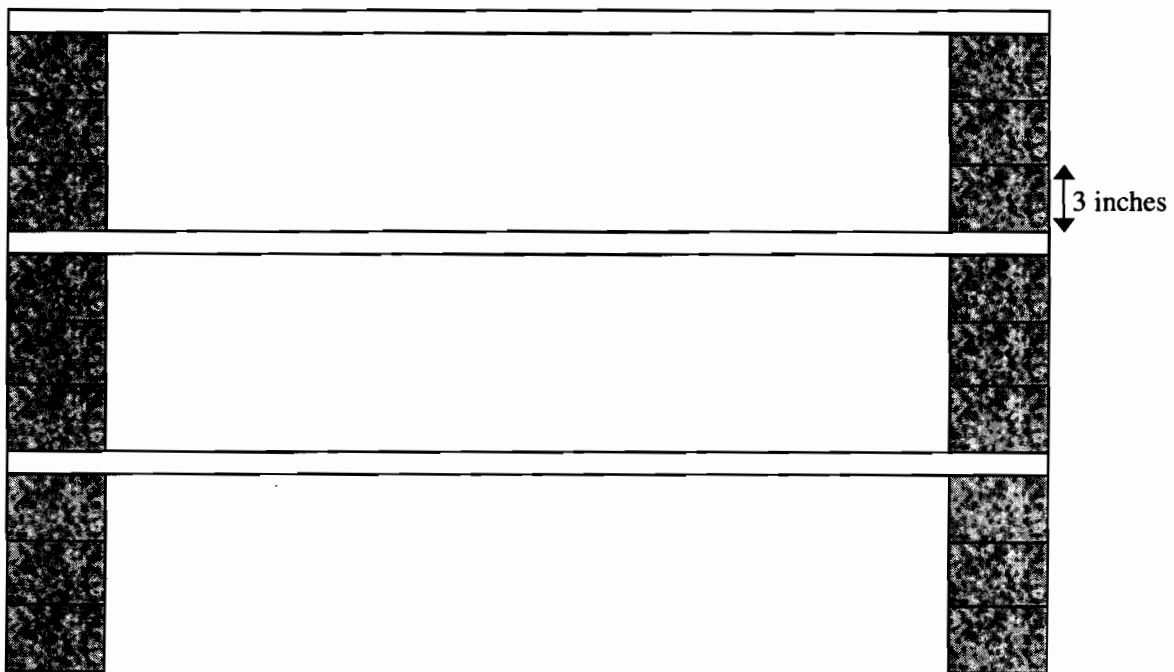
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1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

5 / /  
30 / /  
50 in. / /  
\$12.50 / /

The diagram below shows graphs with the following descriptions:

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

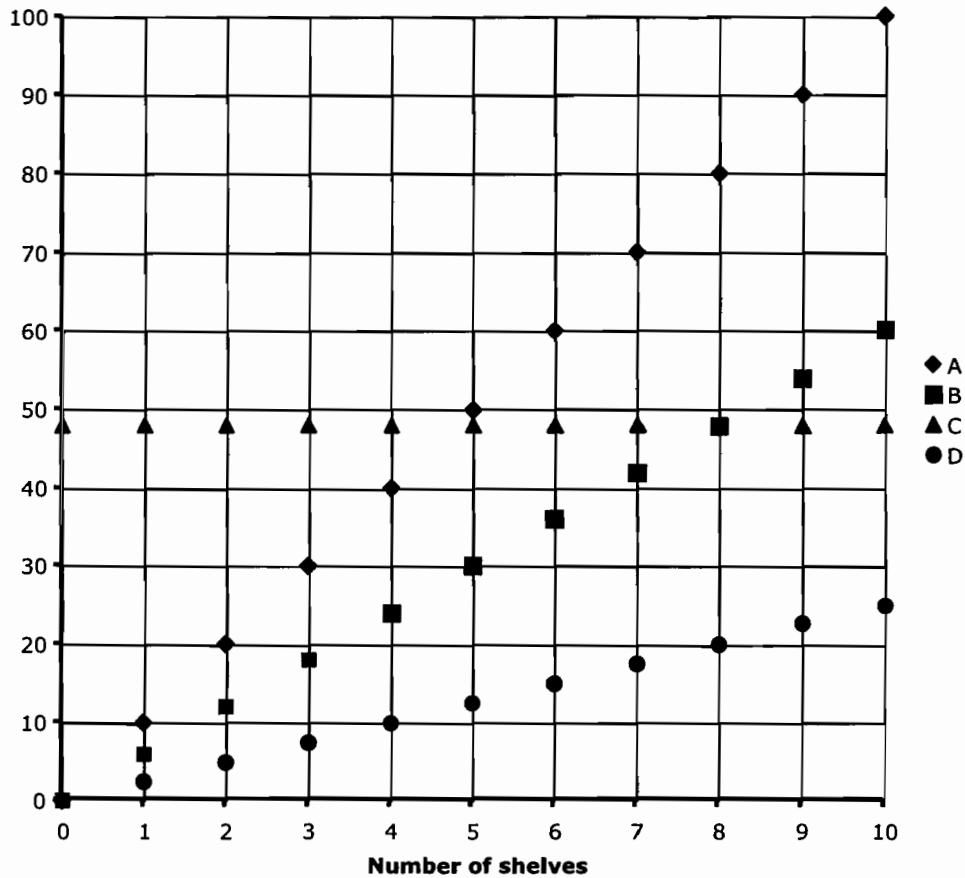
Description Two: The number of bricks against the number of shelves.

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	3 ✓	$y = 10$ ✓ BOD
B	2 ✓	$y = 6x$ ✓
C	4 ✓	$y = 48$ ✓
D	1 ✓	$y = 2.5x$ ✓

4

8

8



# Shelves

# T5

This problem gives you the chance to:

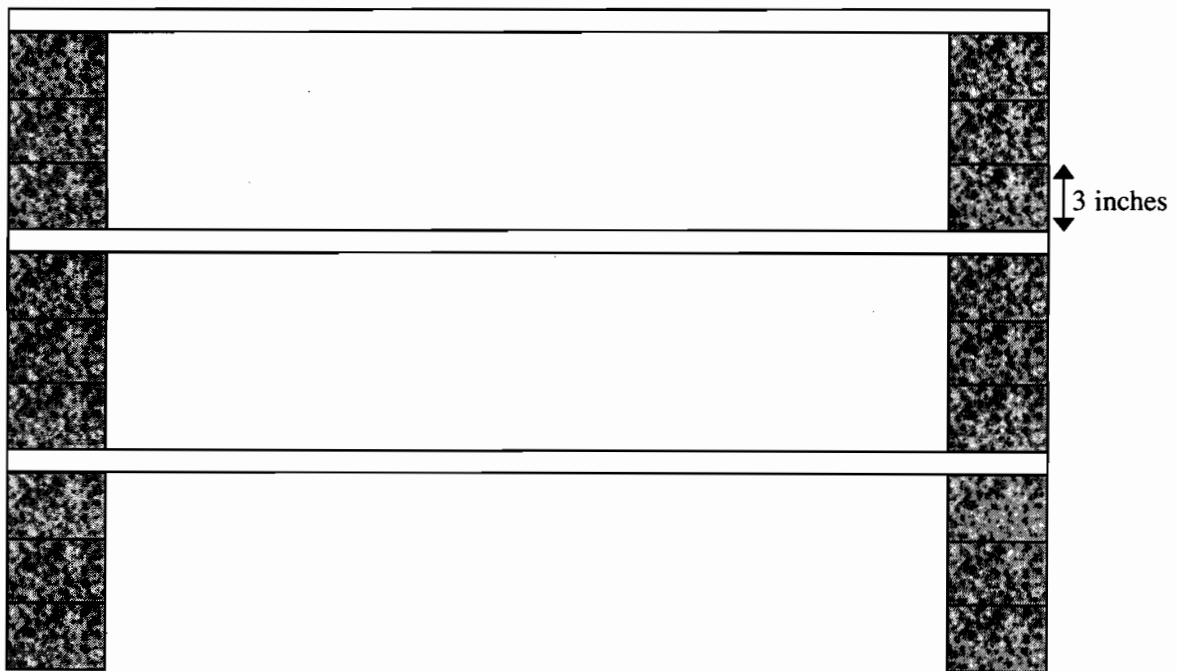
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1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

$$\begin{array}{r}
 5 \quad \checkmark \quad 1 \\
 \hline
 15 \quad \times \quad 0 \\
 \hline
 \text{Inches} = \begin{array}{l} 1^{\text{st}}: 9 \quad 3^{\text{rd}}: 27 \quad 5^{\text{th}}: 45 \\ 2^{\text{nd}}: 18 \quad 4^{\text{th}}: 36 \quad \times \quad 0 \end{array} \\
 \hline
 \$12.50 \quad \checkmark \quad 1 \\
 \hline
 \end{array}$$

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.

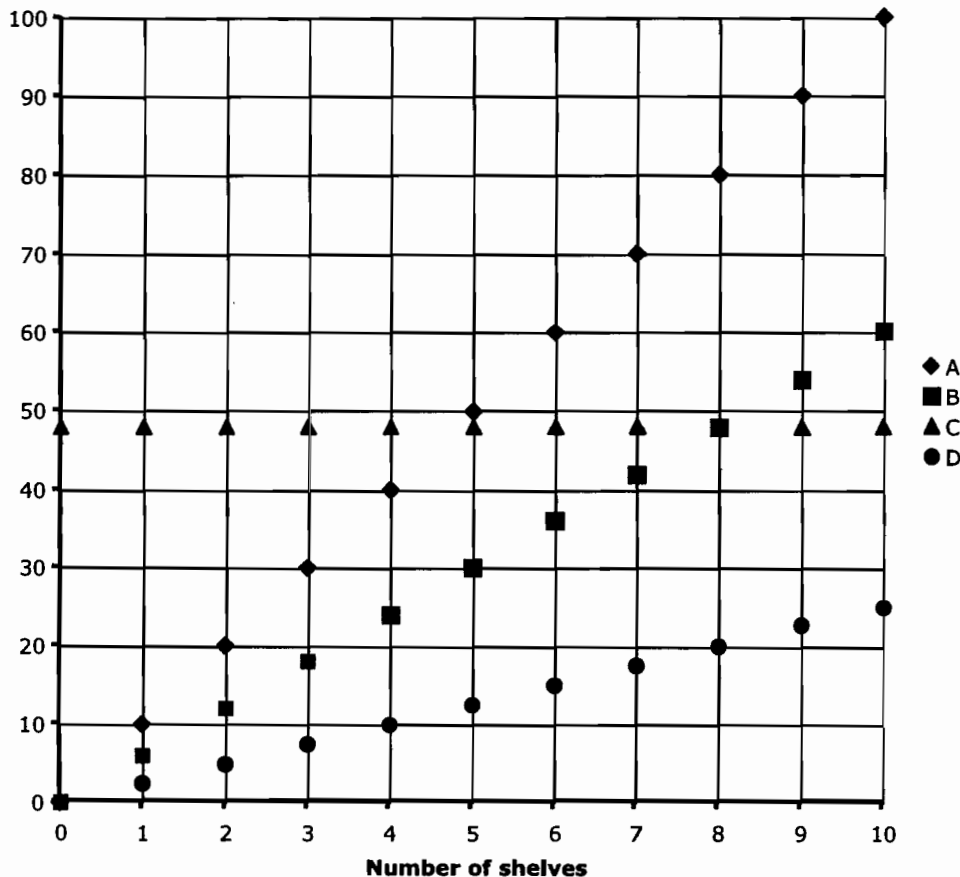
The equations of the graphs are

~~$y = 48$~~

~~$y = 10x$~~

~~$y = 6x$~~

~~$y = 2.5x$~~



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

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

4

6

8

# Shelves

# S1

This problem gives you the chance to:

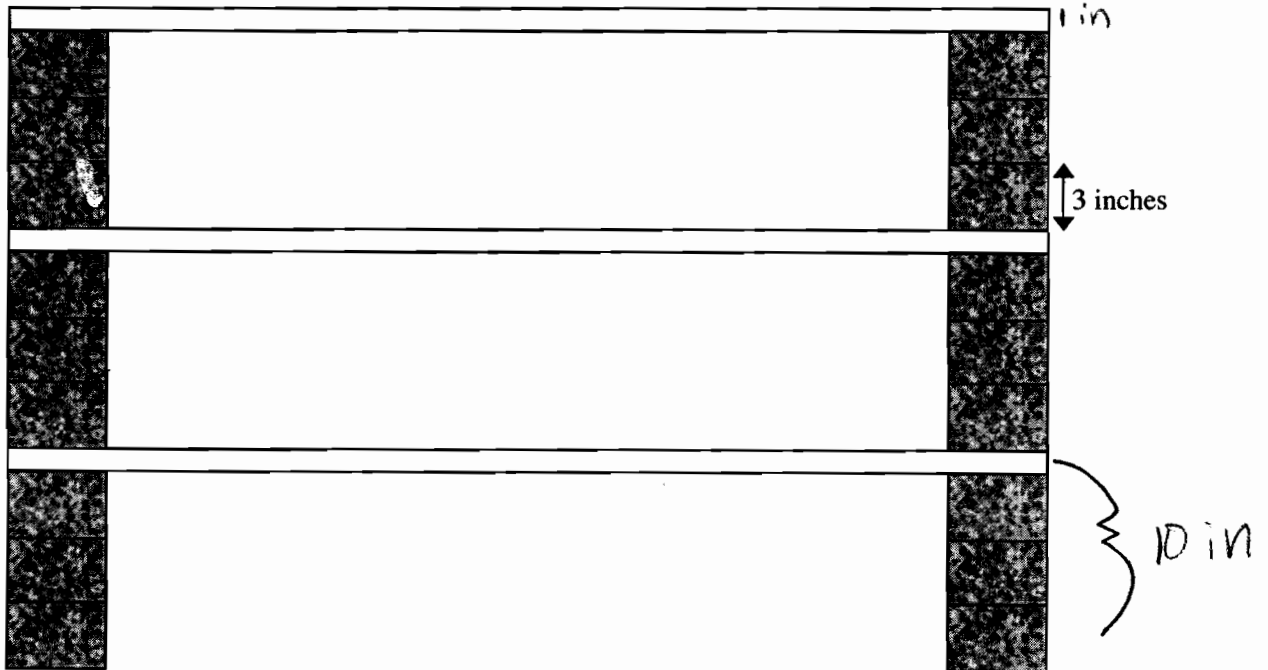
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1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

5 ✓
30 ✓ |  
-----  
50 inches ✓
\$12.50 ✓ |  
-----

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.

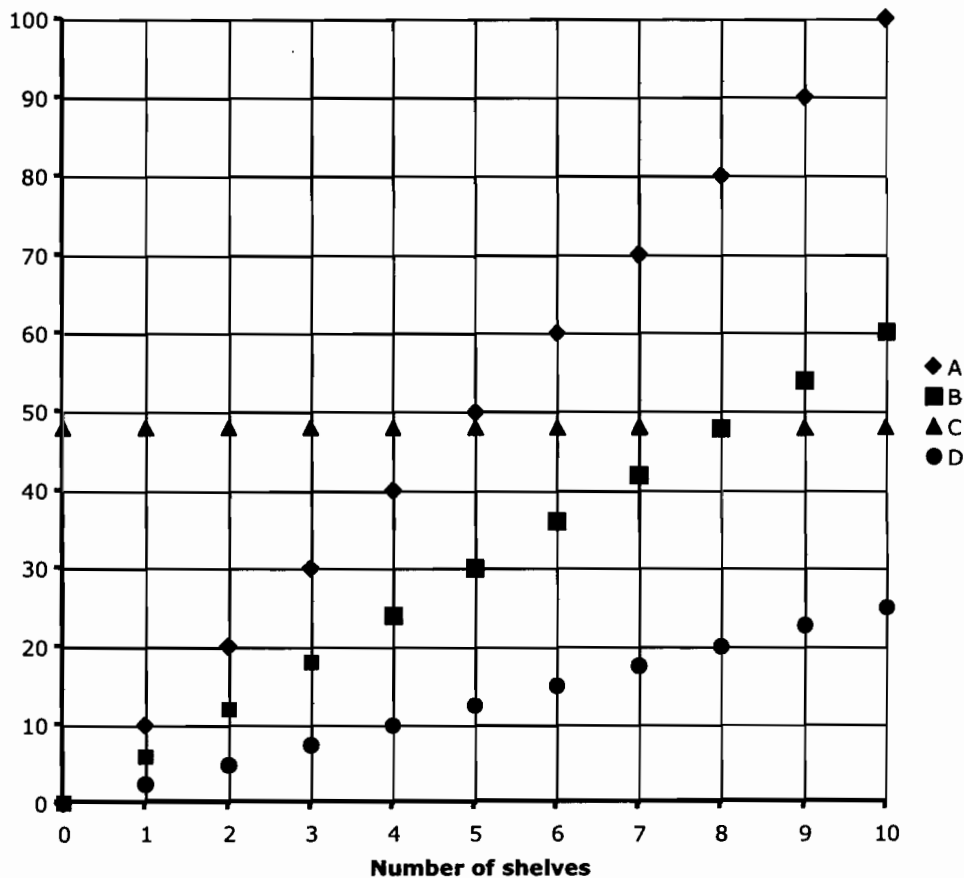
The equations of the graphs are

~~$y = 48$~~

~~$y = 10x$~~

~~$y = 6x$~~

~~$y = 2.5x$~~



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

Graph letter	Description number	Equation
A	three ✓	$y = 10x$ ✓
B	two ✓	$y = 6x$ ✓
C	four ✓	$y = 48$ ✓
D	one ✓	$y = 2.5x$ ✓

4  
8



# Shelves

S2

This problem gives you the chance to:

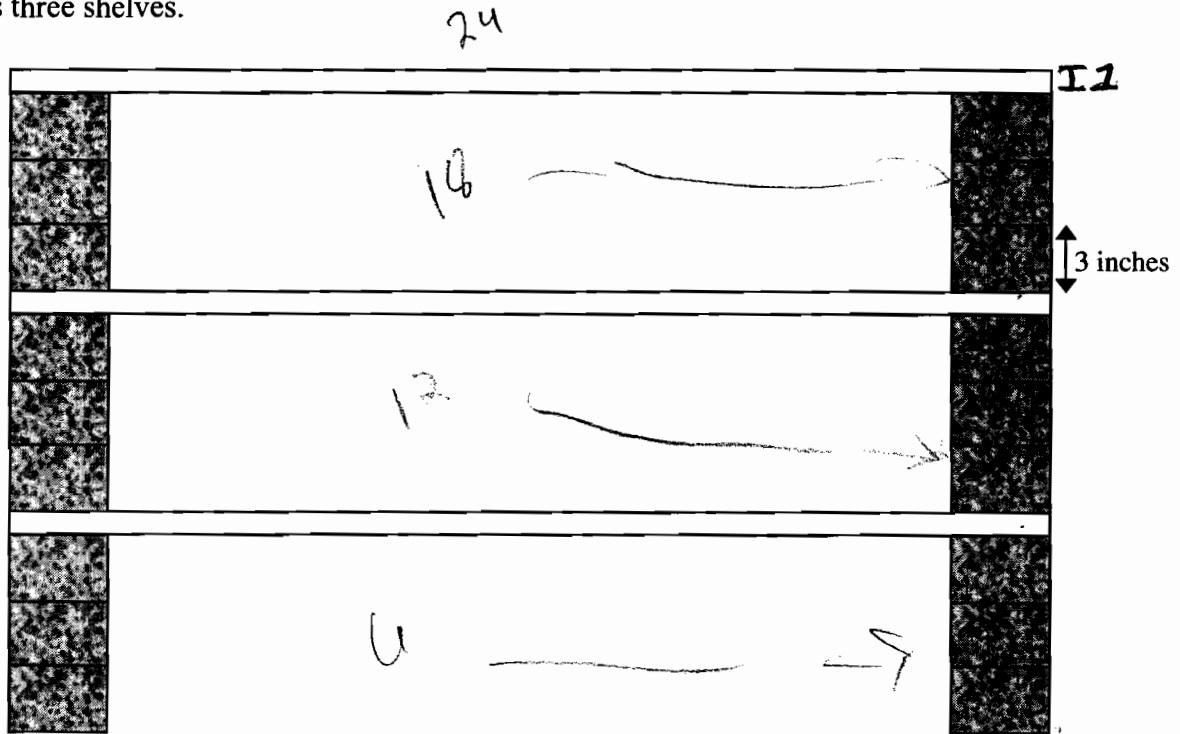
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1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

$$\begin{array}{r}
 5 \quad / \quad 1 \\
 \hline
 34 \times 0 \\
 \hline
 50 \text{ in.} \quad / \quad 1 \\
 \hline
 12.5 \times 0
 \end{array}$$

The diagram below shows graphs with the following descriptions:

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

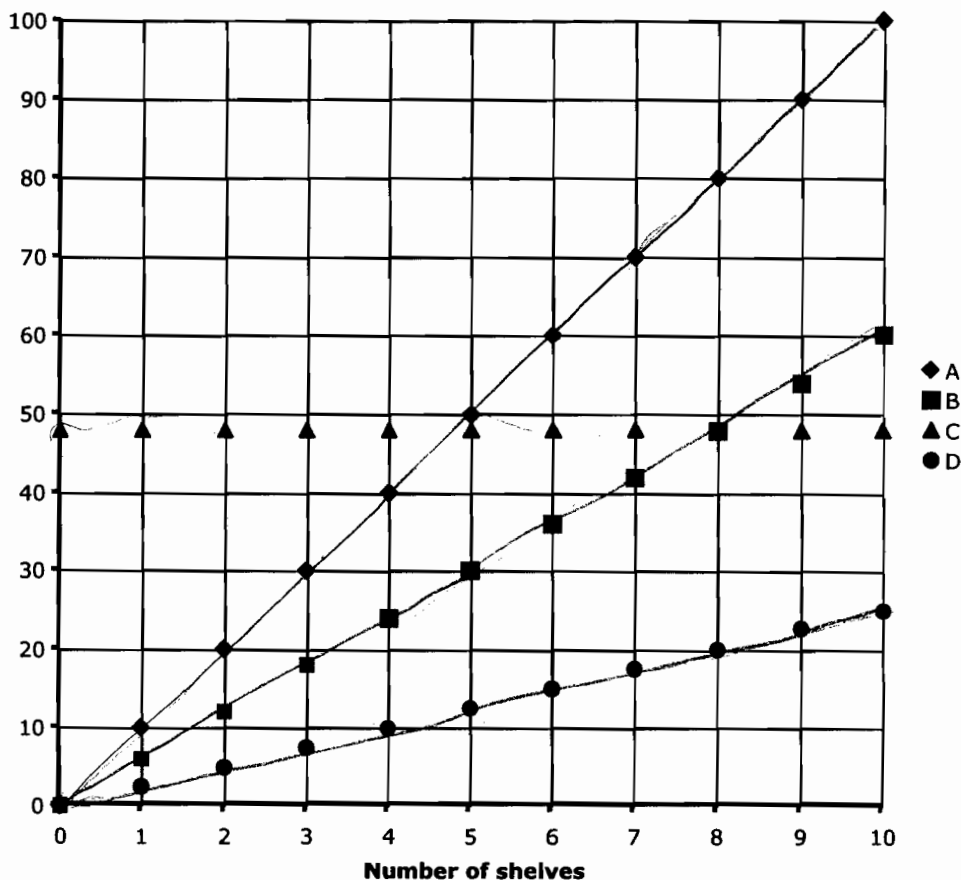
Description ~~Two~~: The number of bricks against the number of shelves.

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	3 ✓	$y = 10x$ ✓
B	2 ✓	$y = 6x$ ✓
C	4 ✓	$y = 48$ ✓
D	1 ✓	$y = 2.5x$ ✓

4

8 (6)

# Shelves

# S3

This problem gives you the chance to:

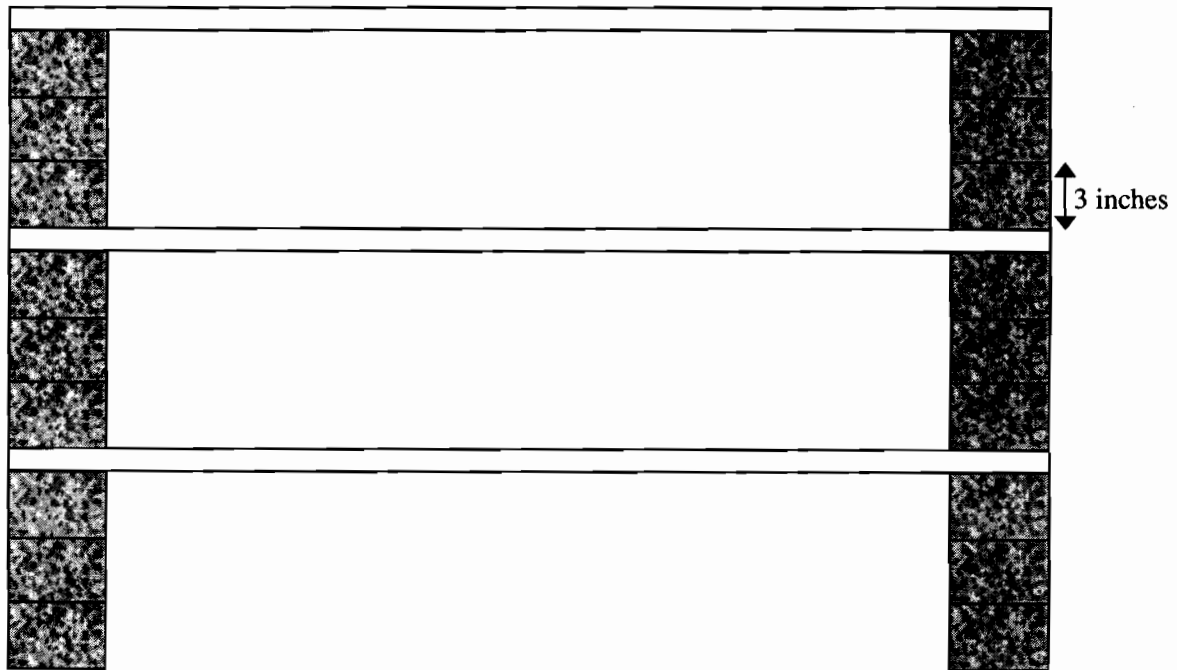
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1. Pete wants five shelves in his bookcase.

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?

$3 \times 5 = 15$   
 $5 \times 3 = 15$

$2.5 \times 5 = 12.5$

5	/	1
<hr/>		
15	x	0
<hr/>		
75 inches	x	0
<hr/>		
\$12.50	✓	1

The diagram below shows graphs with the following descriptions:

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

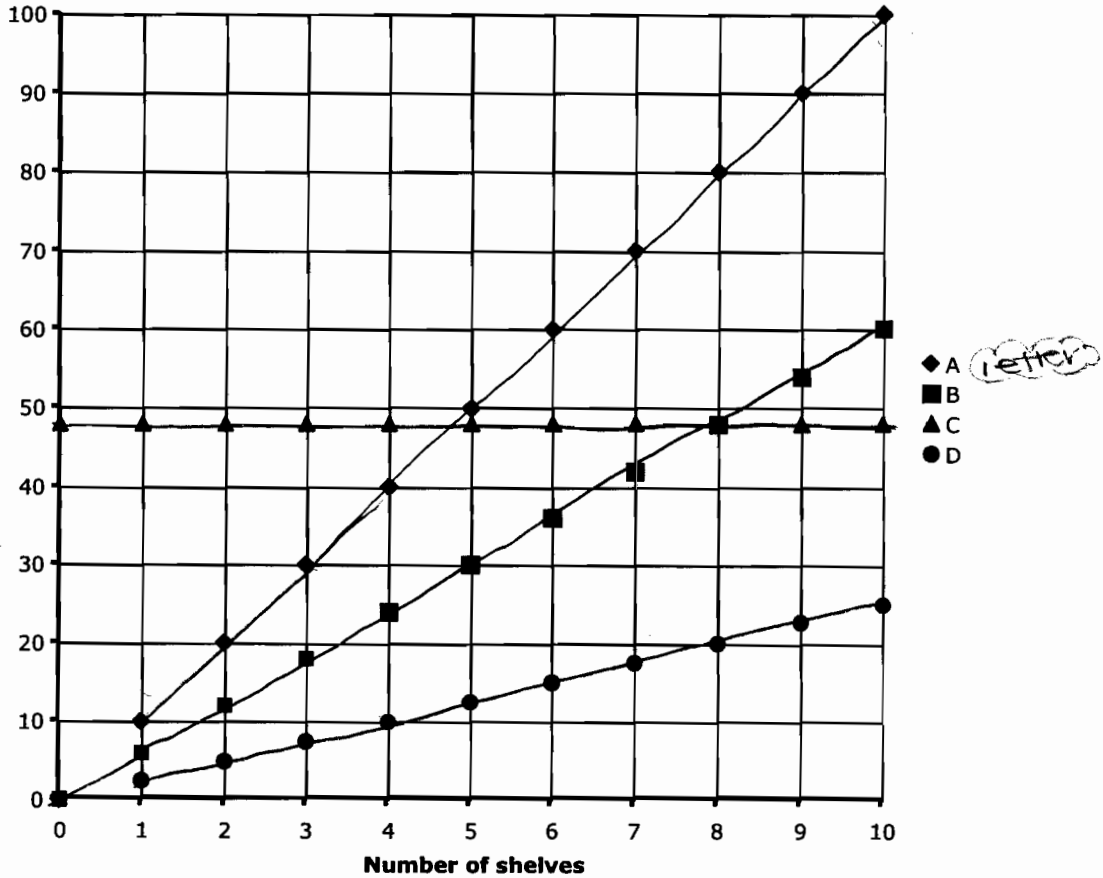
Description Two: The number of bricks against the number of shelves.

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	# 1 x	$y = 10x$ ✓
B	# 3 x	$y = 6x$ ✓
C	# 4 ✓	$y = 48$ ✓
D	# 2 x	$y = 2.5x$ ✓

(2)

4

8



# Shelves

# S4

This problem gives you the chance to:

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

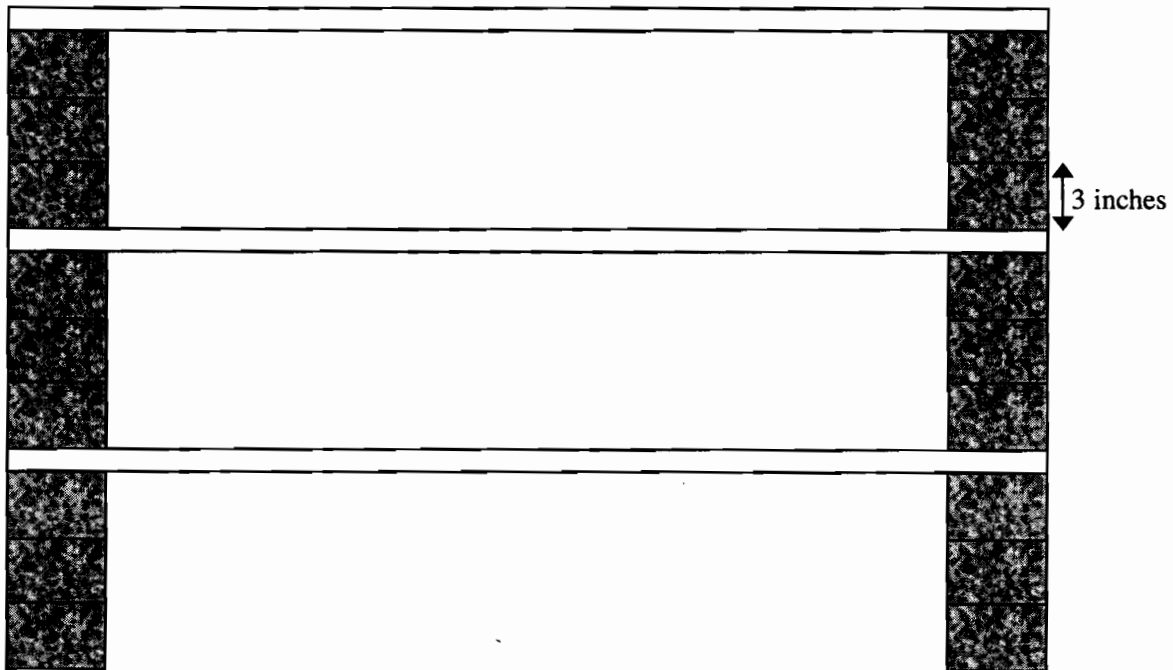
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1. Pete wants five shelves in his bookcase.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

One: 10 in

5 planks ✓	1
30 bricks ✓	1
All: 50 in. high ✓	1
\$75	x 0

The diagram below shows graphs with the following descriptions:

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

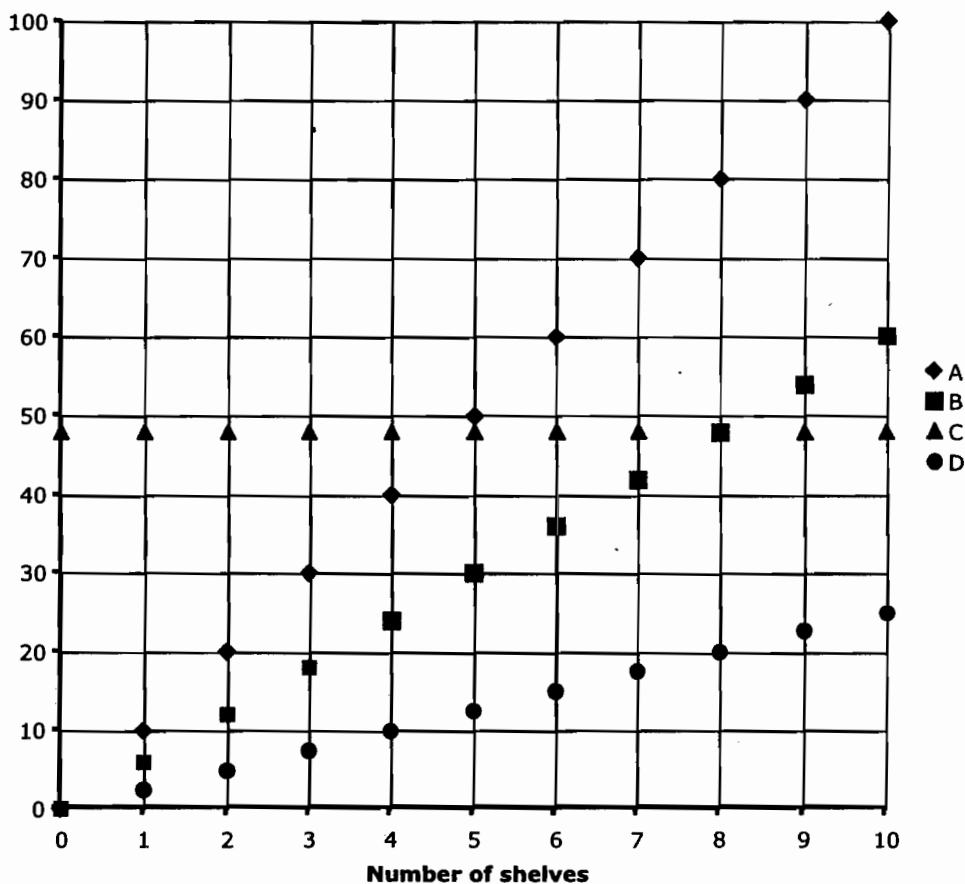
Description Two: The number of bricks against the number of shelves.

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	3 ✓	$y = 10x$ ✓
B	2 ✓	$y = 6x$ ✓
C	4 ✓	$y = 48$ ✓
D	1 ✓	$y = 2.5x$ ✓

4

# Shelves

# S5

This problem gives you the chance to:

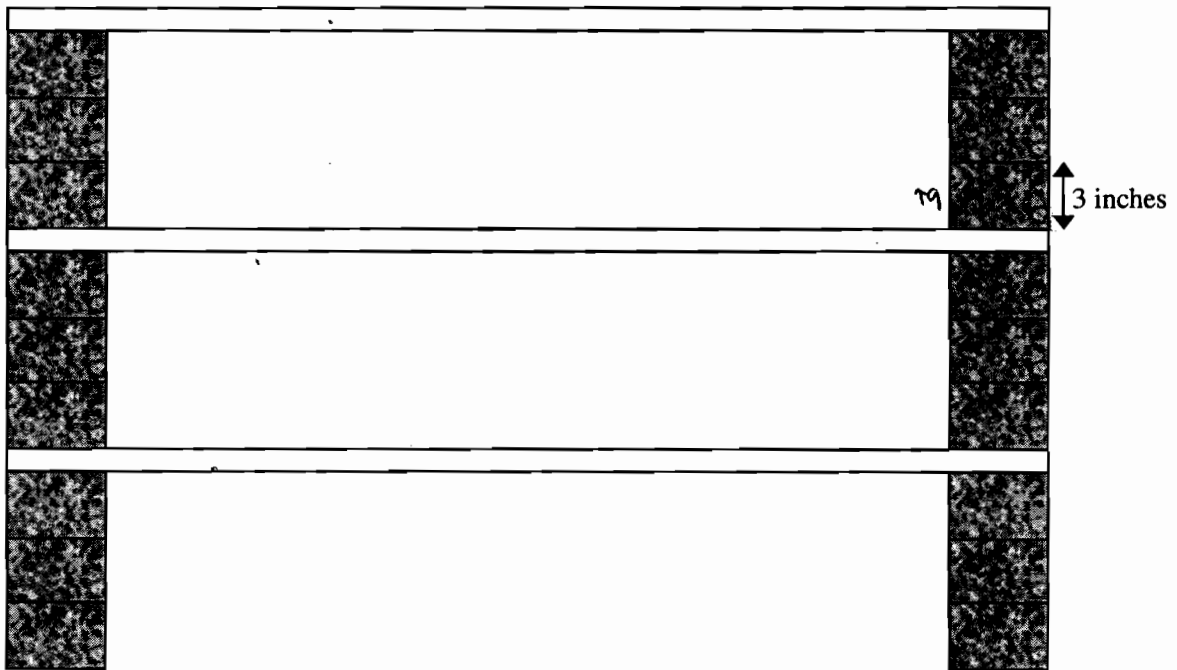
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For each shelf, Pete will put three bricks at each end then put a plank of wood on top. The diagram shows three shelves.



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?

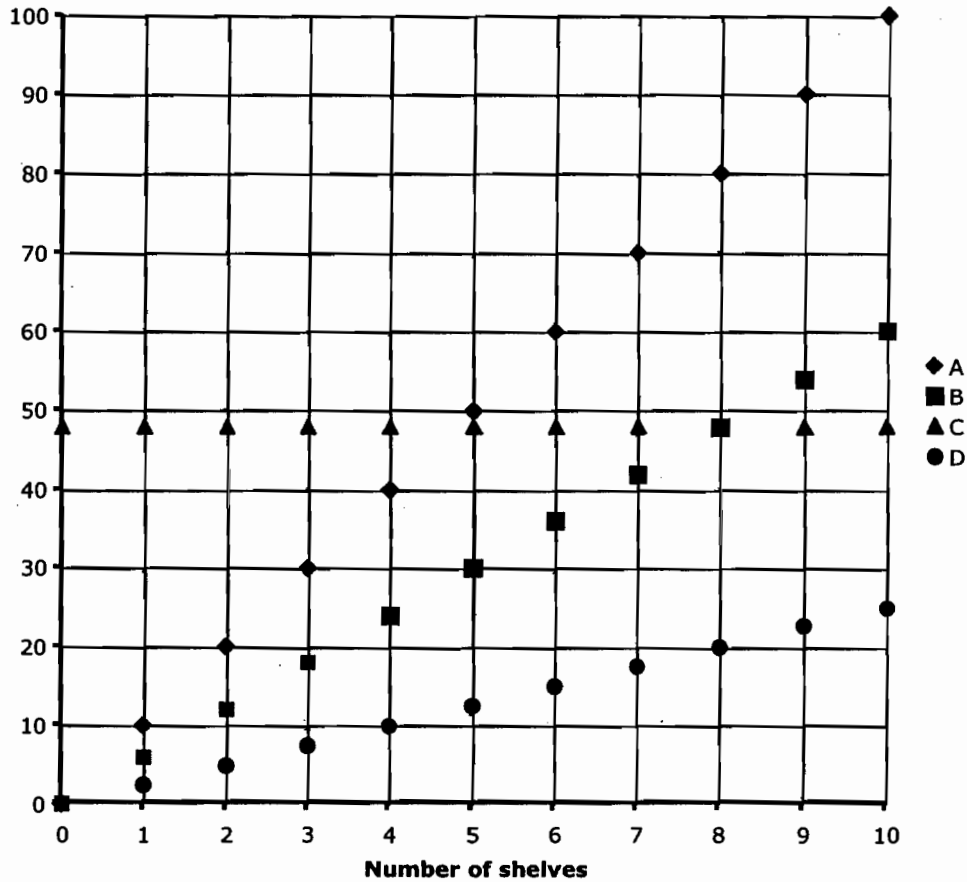
$$\begin{array}{r} 6 \times 0 \\ \hline 36 \checkmark \text{ 1ft} \\ \hline 108 \text{ inches} \times 0 \\ \hline \$15 \checkmark \text{ 1ft} \end{array}$$

The diagram below shows graphs with the following descriptions:

- ~~✓~~ Description One: The cost of the bookcase against the number of shelves.
- ~~67~~ Description Two: The number of bricks against the number of shelves.
- ~~10x~~ 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	3	$y = 10x$
B	2	$y = 6x$
C	4	$y = 48$
D	one (1)	$y = 2.5x$

4

# Shelves

# S6

This problem gives you the chance to:

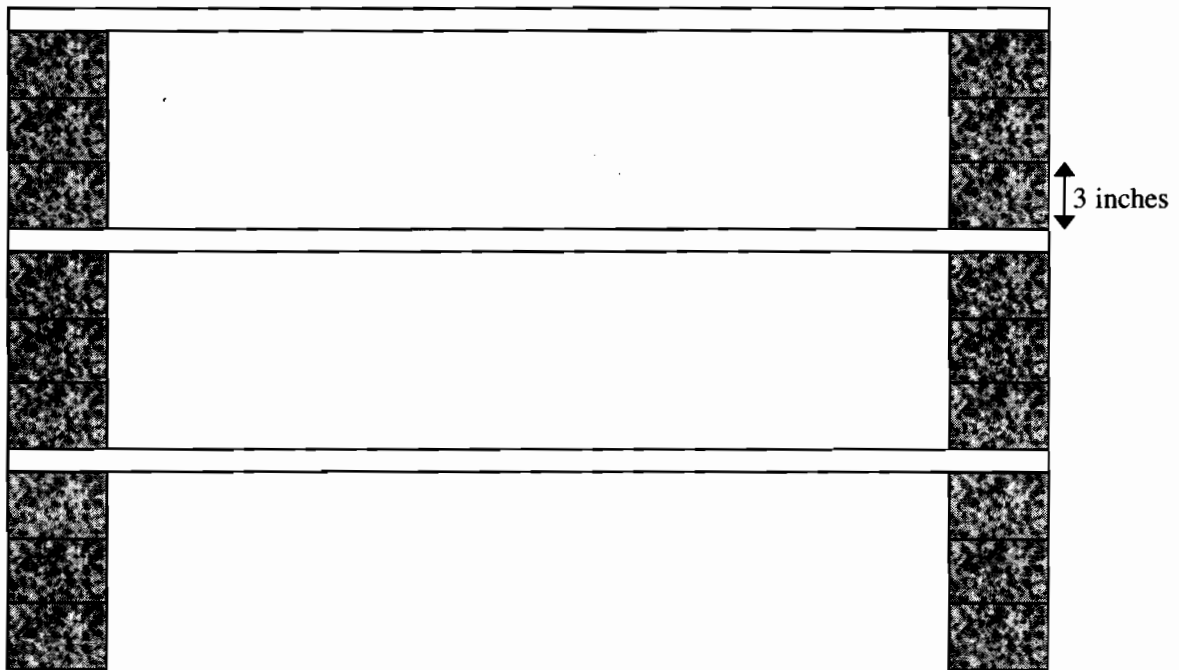
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- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

5	✓	1
30	/	1
95"	X	Q
\$12.50	✓	1

The diagram below shows graphs with the following descriptions:

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

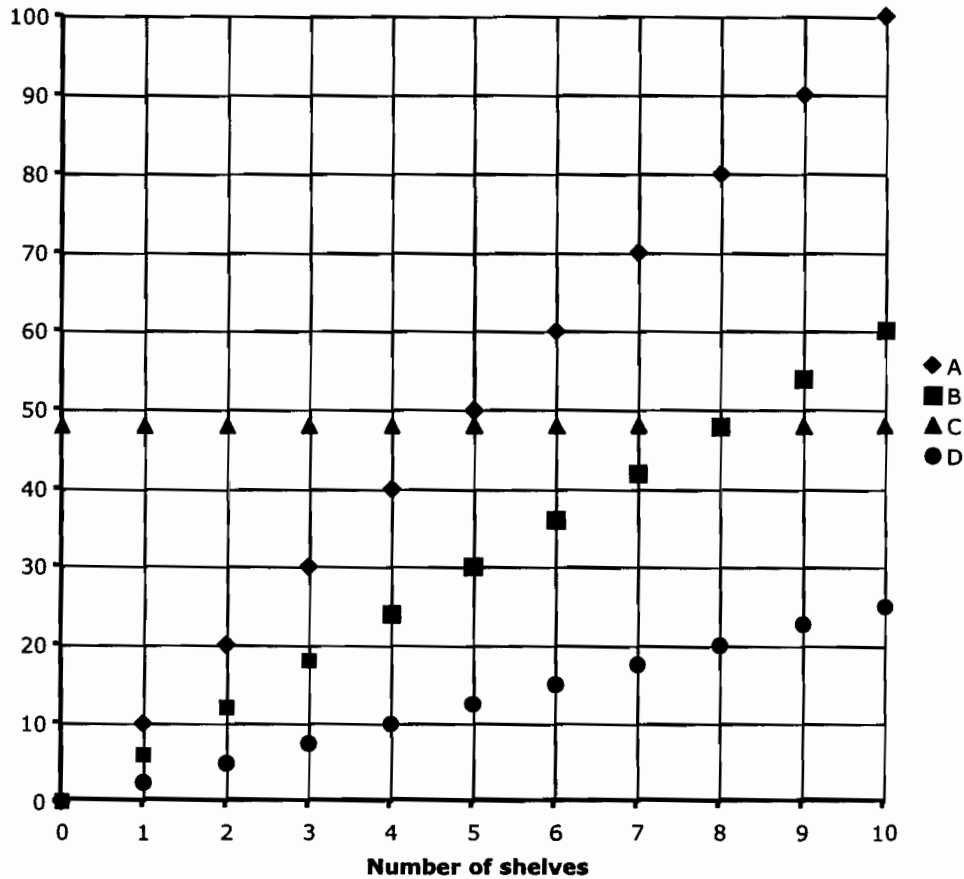
Description Two: The number of bricks against the number of shelves.

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	4 X	$y = 48$ X
B	3 X	$y = 10x$ X
C	2 X	$y = 6x$ X
D	1 ✓	$y = 2.5x$ ✓

(1)

8 4

## Shelves

# S7

This problem gives you the chance to:

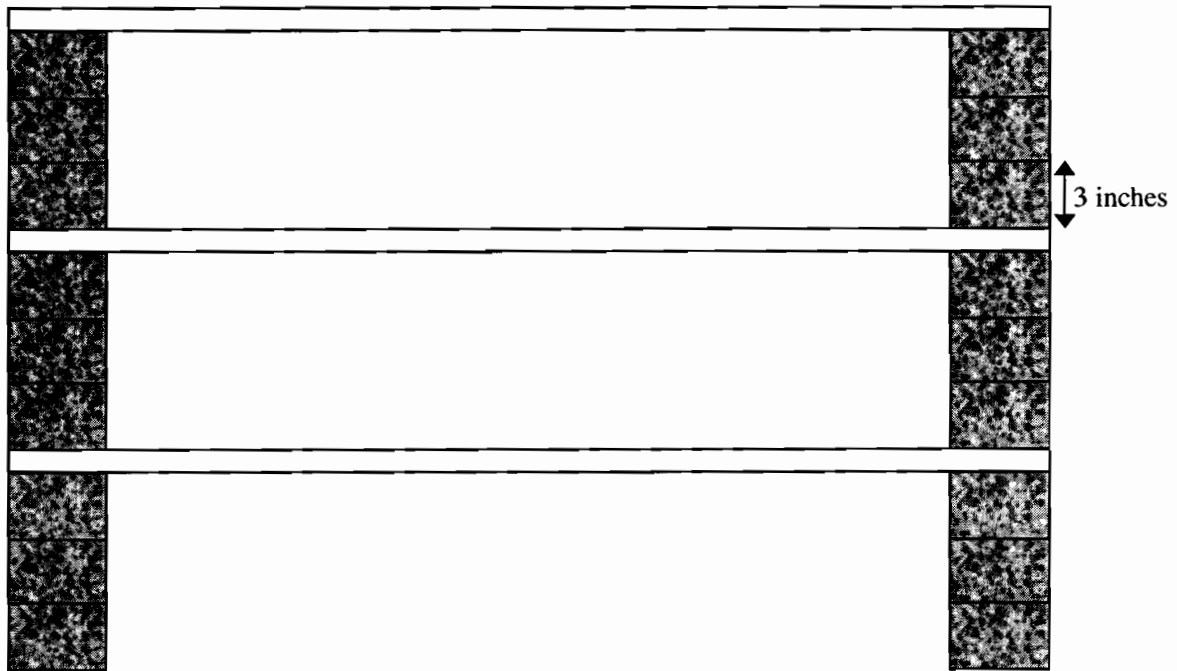
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- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

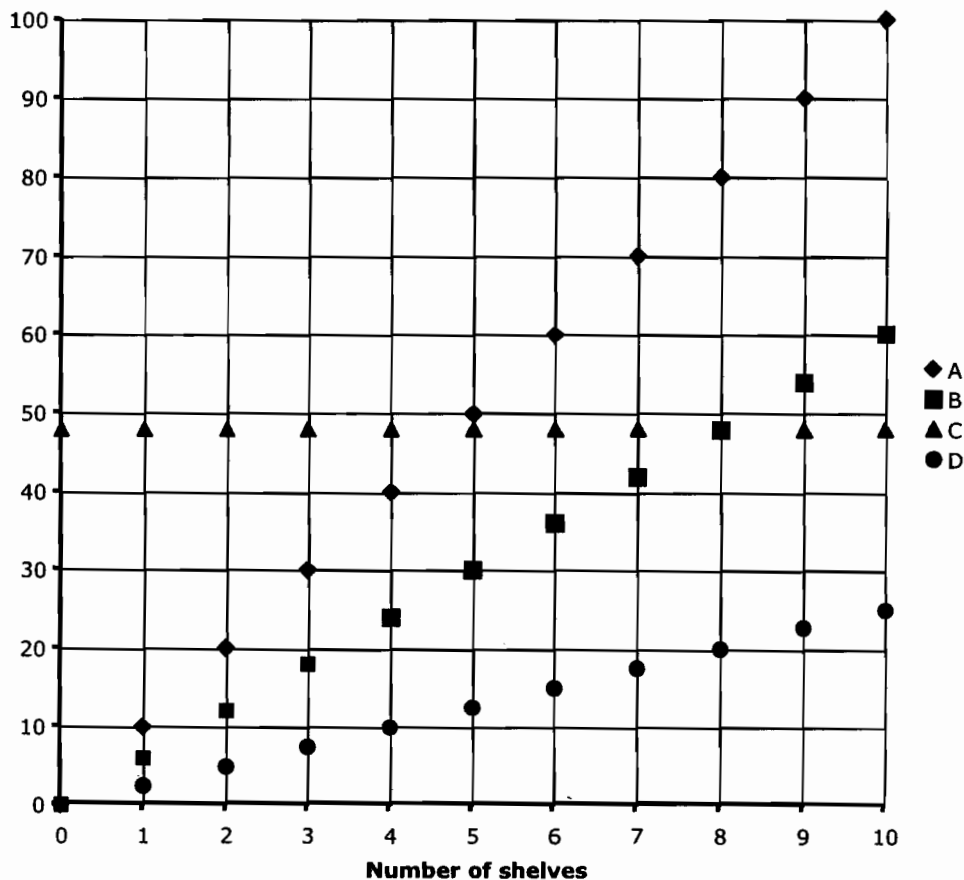
5 planks ✓ | 1  
30 bricks ✓ | 1  
10 in each ✓ | 300 | 1  
\$12.50 ✓ | 1

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	3 /	$y = 10x$ /
B	2 /	$y = 6x$ /
C	4 /	$y = 48$ /
D	1 /	$y = 2.5x$ /

4

8

8



# Shelves

# S8

This problem gives you the chance to:

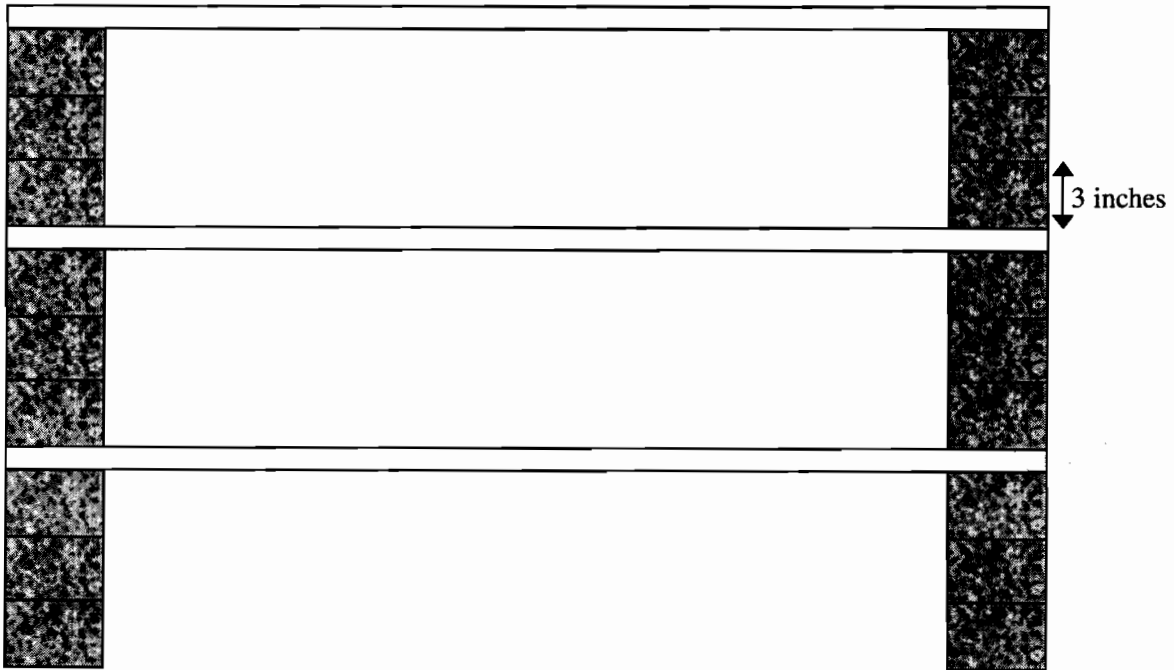
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1. Pete wants five shelves in his bookcase.

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?

$$\begin{array}{r} 5 \quad \checkmark \quad 1 \\ \hline 18 \quad \times \quad 0 \\ \hline 1ft \quad 6in. \quad \times \quad 0 \\ \hline 2.50 \quad \checkmark \quad 1 \end{array}$$

The diagram below shows graphs with the following descriptions:

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

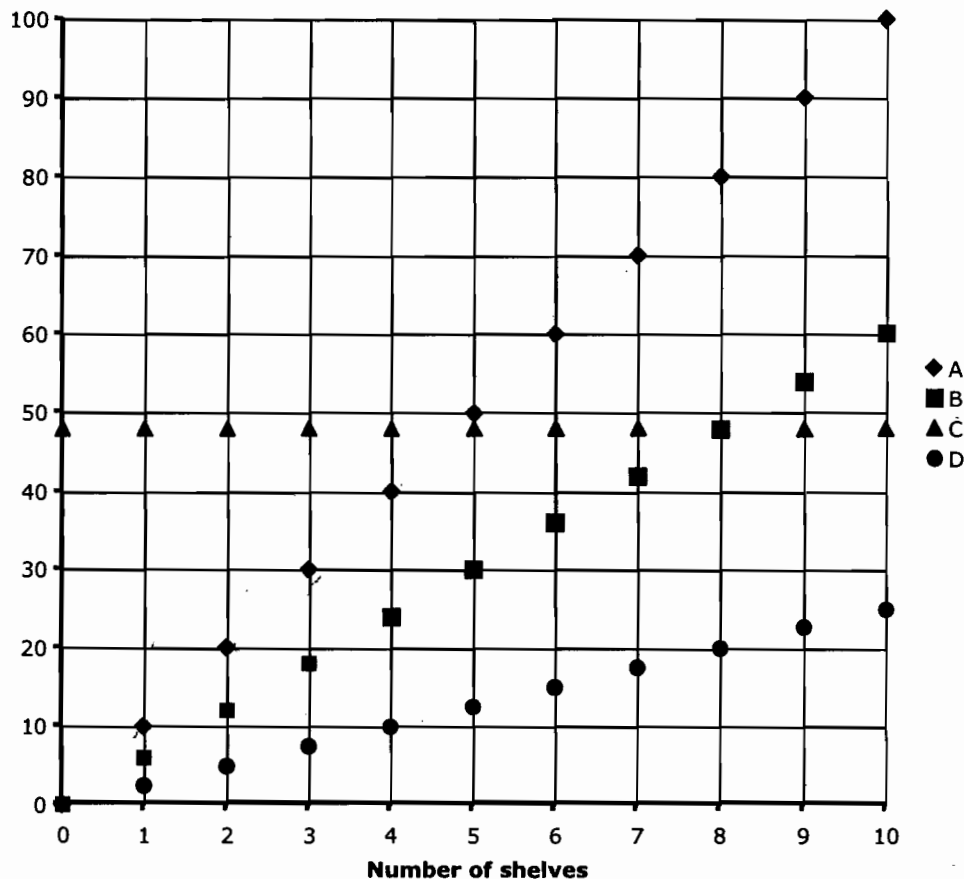
Description Two: The number of bricks against the number of shelves.

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	3 ✓	$y = 10x$ ✓
B	2 ✓	$y = 2.5x$ ✓
C	4 ✓	$y = 48$ ✓
D	1 ✓	$y = 6x$ ✓

(3)

8 (5)

# Shelves

S9

This problem gives you the chance to:

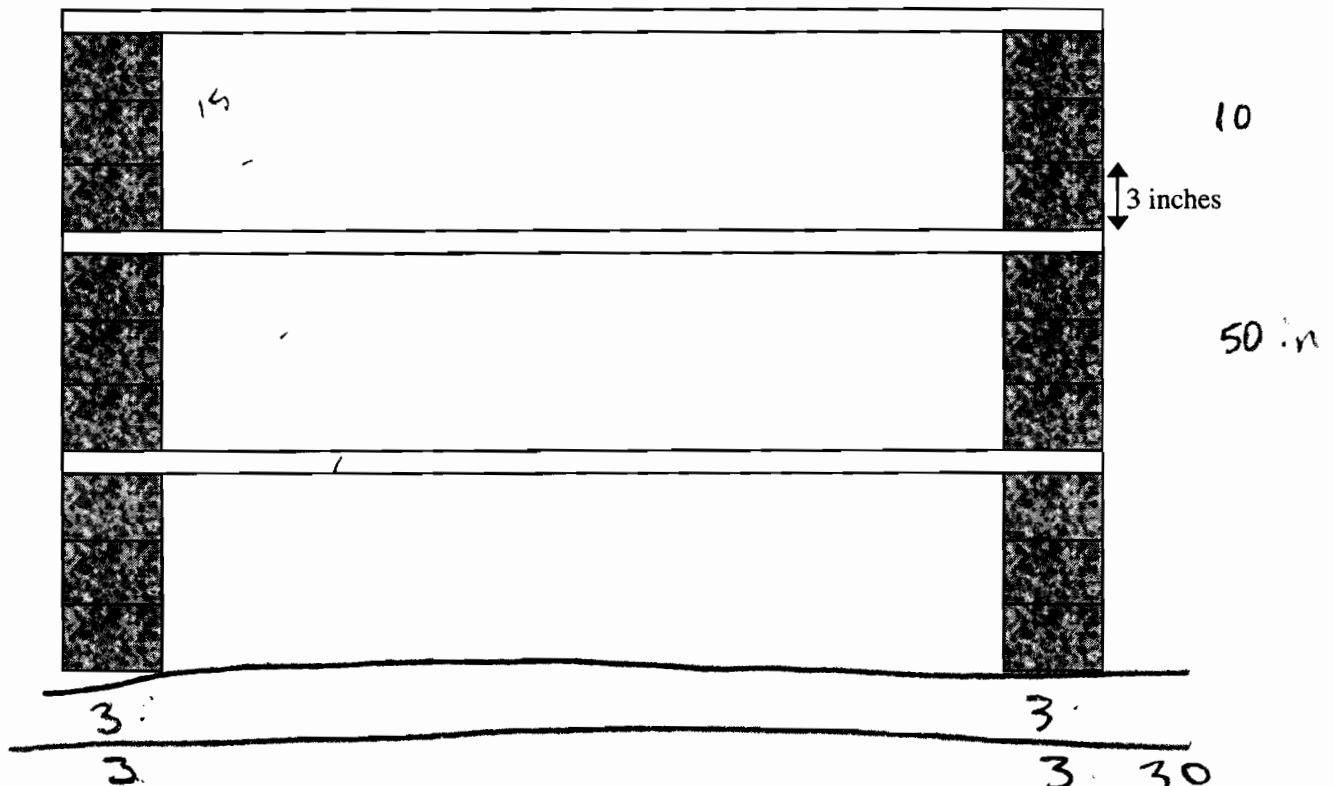
- solve problems in a spatial context
- identify and distinguish the four point graphs related to this situation

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.



- Pete wants five shelves in his bookcase.
  - How many planks of wood does he need?
  - How many bricks does he need?
  - How high will the shelves be?
  - How much will the bookcase cost?

3 30  
 5 1  
 30 1  
 50 in. 1  
 \$12.50 1

The diagram below shows graphs with the following descriptions:

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

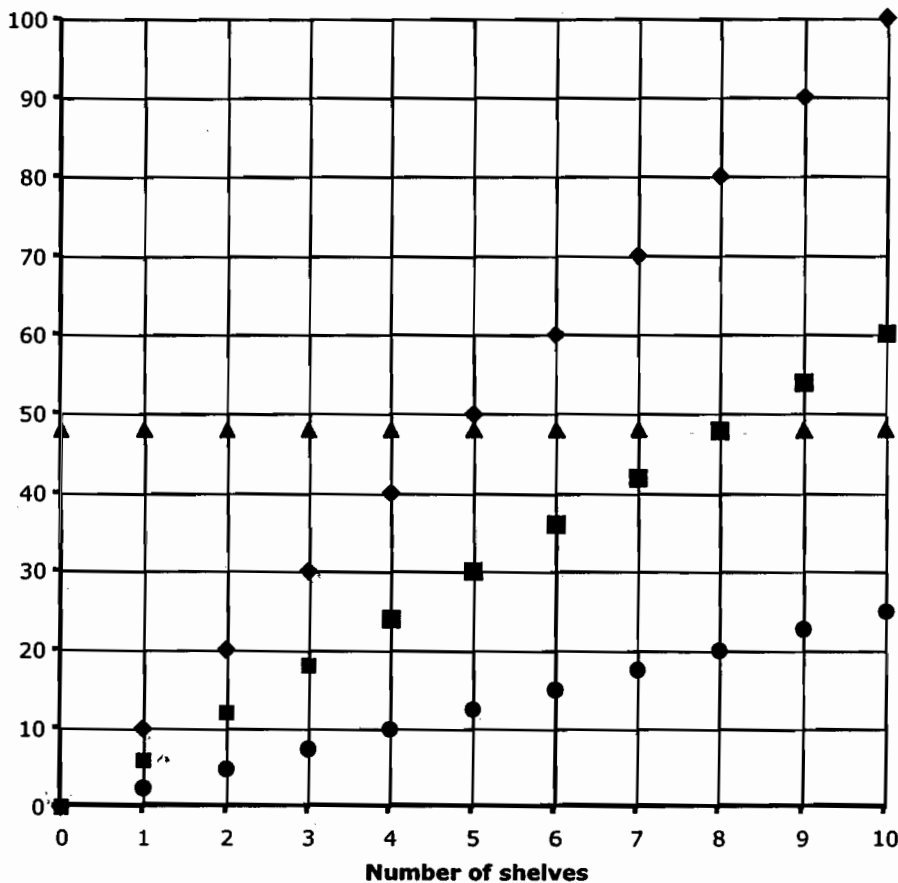
~~Description Two: The number of bricks against the number of shelves.~~

~~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	3 /	$y = 10x$ /
B	2 /	$y = 6x$ /
C	4 /	$y = 48$ /
D	1 /	$y = 2.5x$ /

4

8

# Shelves

# S10

This problem gives you the chance to:

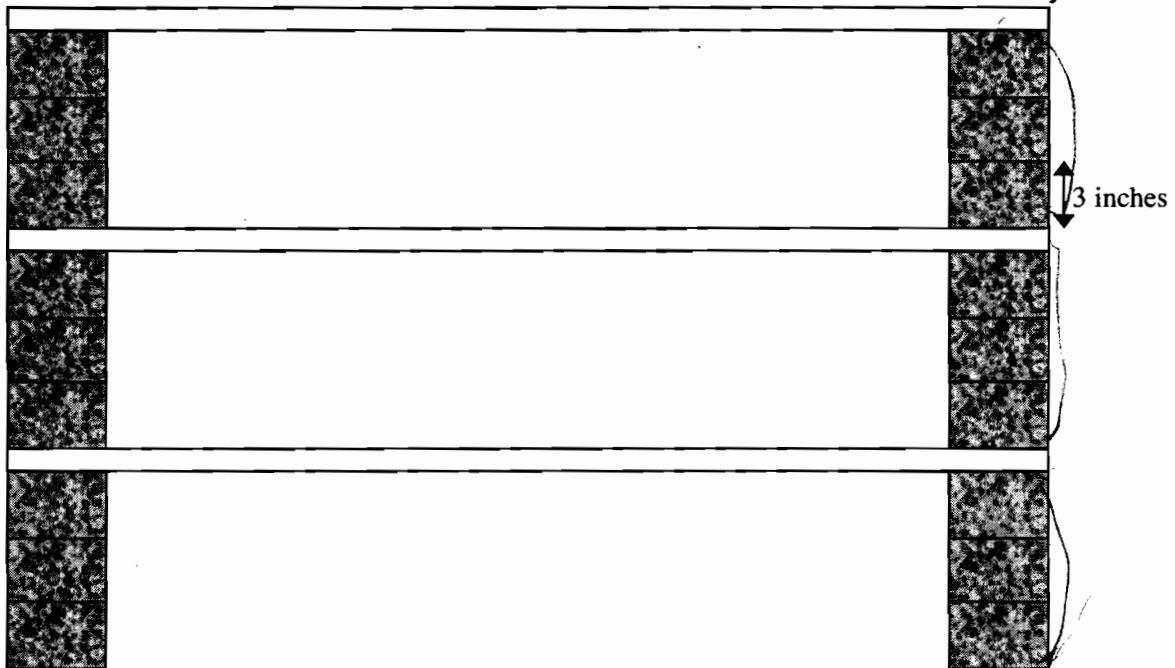
- solve problems in a spatial context
- identify and distinguish the four point graphs related to this situation

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.

- How many planks of wood does he need?
- How many bricks does he need?
- How high will the shelves be?
- How much will the bookcase cost?

$$\begin{array}{r}
 5 \checkmark \quad 1 \\
 \hline
 15 \quad \times \quad 0 \quad 45 \\
 \hline
 \text{top one} \rightarrow 50 \text{ in } \checkmark \\
 \hline
 \$12.50 \quad \checkmark \quad 1
 \end{array}$$

The diagram below shows graphs with the following descriptions:

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

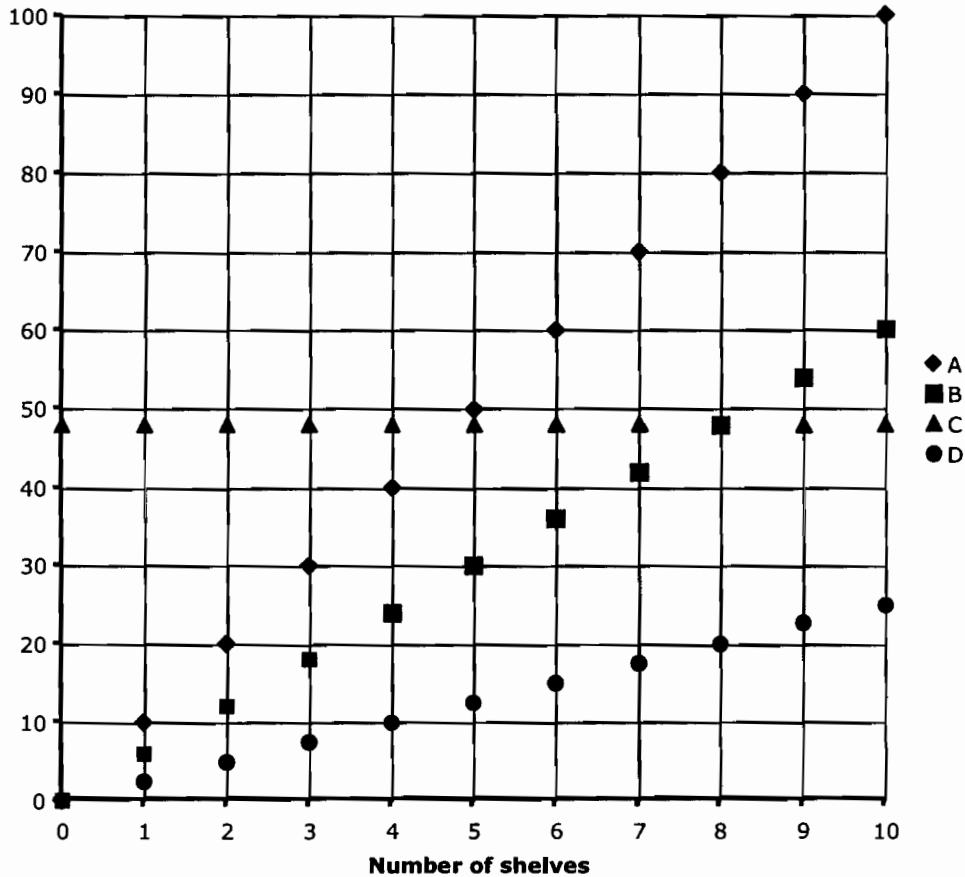
Description Two: The number of bricks against the number of shelves.

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	3 /	$y = 10x$ ✓
B	2 /	$y = 6x$ ✓
C	4 /	$y = 48$ ✓ BOD
D	1 /	$y = 2.5x$ ✓

4

(7)

8