

Baseball Jerseys



Bill wants to order new jerseys for his baseball team.
He sees the following advertisements for two printing companies, 'PRINT IT' and 'TOP PRINT'.
Bill doesn't know which company to choose.

PRINT IT



Get your baseball jerseys printed with your own team names here.

Only \$21 per jersey.

TOP PRINT



We will print your baseball jerseys - just supply us with your design.

Pay a one-off setting up cost of \$45; we will then print each jersey for only \$18!

1. Give Bill some advice on which company he should buy from. When should he choose 'PRINT IT'? When should he choose 'TOP PRINT'? Explain your answer fully.

2. A third company called 'VALUE PRINTING' wants to start trading.

It wants its prices to be between those of 'PRINT IT' and 'TOP PRINT'.

This company never wants to be the most expensive and never wants to be the cheapest.

Can you complete this poster for the new company?

VALUE PRINTING



We print baseball jerseys.

Pay a one-off set up cost of \$.....

Then each jersey will cost \$.....

Sample Responses to Discuss: Danny

Number of Jerseys	Cost at 'Print it'	Cost at Top Print
5	\$105	\$135
10	\$210	\$245
15	\$315	\$315 ←
20	\$430	\$405
16	\$336	\$333

Top print cheaper more than 15 jerseys.

What mistakes has Danny made?

In what ways would Danny's mistakes affect his advice to Bill?

Why has Danny calculated the cost of 16 jerseys?

How could Danny's work be improved?

Sample Responses to Discuss: Jeremiah

Print it cost $\$21n$
Top Print cost $\$45 + 18n$
 $21n = 45 + 18n$
 $3n = 45$
 $n = 15$
 $n = 16$ Print it $\$336$ Top Print $\$333$

Where does Jeremiah get the equation ' $21n = 45 + 18n$ ' from?

Is Jeremiah's solution complete?

In what ways could Jeremiah's work be improved?

To help you to understand Jeremiah's work, what question(s) could you ask him?

Sample Responses to Discuss: Bella

He would have to buy 15 jerseys
to get the \$45 set up cost gone.
Then Top Print \$3 cheaper.

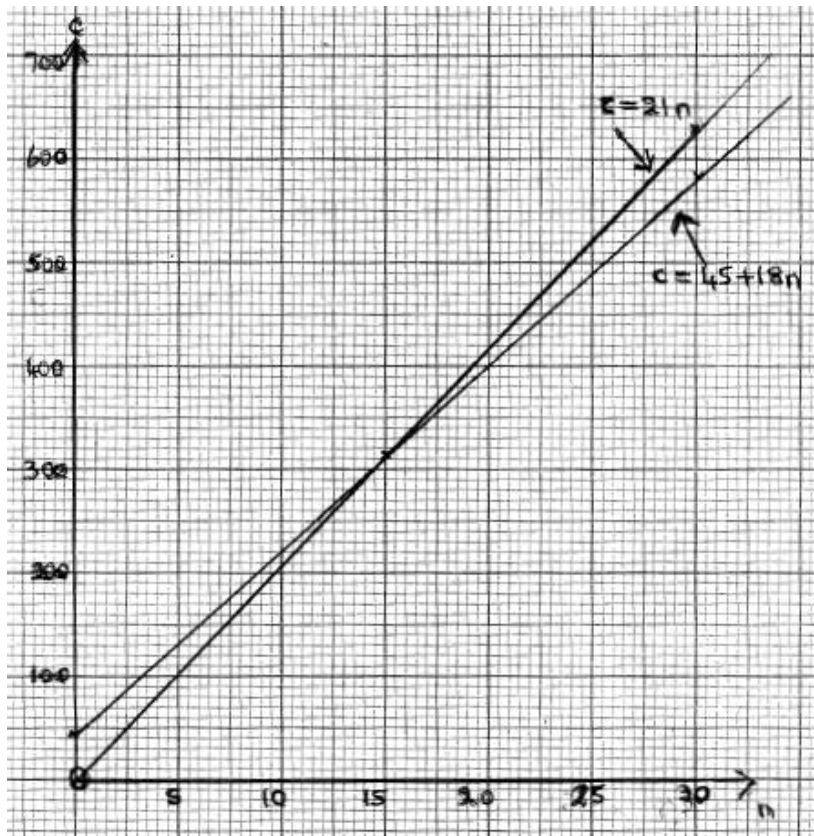
Is Bella's reasoning correct? Explain your answer.

What does Bella mean by '\$3 cheaper'?

In what ways could Bella's work be improved?

To help you to understand Bella's work, what question(s) could you ask her?

Sample Responses to Discuss: Tanya



What is not clear about Tanya's work?

In what ways could Tanya's work be improved?

To help you to understand Tanya's work, what question(s) could you ask her?

How Did You Work?

Mark the boxes and complete the sentences that apply to your work.

- 1 Our group solution was mathematically better than my individual solution OR My individual solution was mathematically better than our group solution

This is because _____

- 2 We checked our method We could check our method by _____
 We checked our method by _____

- 3 Our solution is similar to one of the sample responses OR Our solution is different from **all** the sample responses
 Our solution is similar to Add name of sample response

I prefer **our method** / **the sample response** method (*circle*) This is because _____
 This is because _____

- 4 The solution most useful to Bill is _____ This is because _____

