

Baseball Jerseys

T1

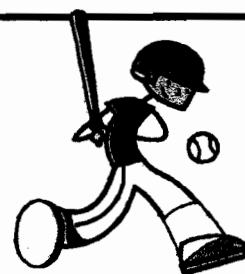
This problem gives you the chance to:

- work with equations that represent real life situations

Bill is going to order new jerseys for his baseball team.

The jerseys will have the team logo printed on the front.

Bill asks two local companies to give him a price.



1. 'Print It' will charge \$21.50 each for the jerseys.

Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$21.5n = c$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$70 + 18n = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

$$30 \times 18 = 540 + 70 = 610 \leftarrow \text{Top Print}$$

$$21.5 \times 30 = 645 \leftarrow \text{Print It}$$

\$35

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

21 jerseys

I used guess and check. Using my calculator and the equations above, I found out buying 20 jerseys equals the prices to \$430. I added 1 more jersey, and Top Print was \$448 and Print It was \$451.50. 21 jerseys was definitely when Top Print was cheaper.

9

Baseball Jerseys

T2

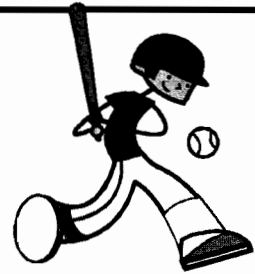
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Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$21.50N = C$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$70 + 18N = C$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

\$610

$$\begin{array}{r} 18 \\ \times 30 \\ \hline 00 \\ 540 \\ \hline \end{array}$$

$$\begin{aligned} 70 + 18 \times 30 &= \\ 70 + 540 &= 610 \end{aligned}$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

20

He would have to buy 20 jerseys because it would take 20 to get the 20 dollar set up cost gone. Then it would be 3.50 dollars cheaper.

Baseball Jerseys

T3

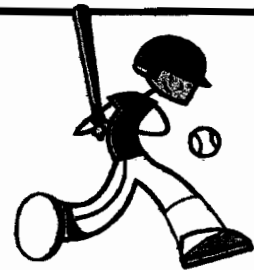
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Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$c = 21.5n$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$c = 70 + 18n$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'? Show all your calculations.

\$30 more

$$\begin{array}{r} 70 + 18(30) \\ 70 + 540 \\ \hline 610 \end{array}$$
$$\begin{array}{r} 21.5 \cdot 60 \\ 645 \\ - 610 \\ \hline 35 \end{array}$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

1-10 jerseys

$$\begin{array}{l} 70 + 18(1) = 88 \\ 21.5 \cdot 1 = 21.50 \end{array}$$
$$\begin{array}{l} 70 + 18(2) = 106 \\ 21.5 \cdot 2 = 43 \end{array}$$
$$\begin{array}{l} 70 + 18(10) = 250 \\ 21.5 \cdot 3 = 64.5 \\ 21.5 \cdot 10 = 215 \end{array}$$



Baseball Jerseys

T4

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$$21.5n = c$$

$$21.5n = c$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$70 + 18n = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

\$35

$$70 + 18(30) = 610$$

$$\begin{array}{r} 645 \\ - 610 \\ \hline 35 \end{array}$$

$$21.5(30) = 645$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

21 jersey

I would use guess and check

9

Baseball Jerseys

T5

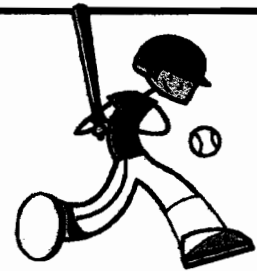
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Bill asks two local companies to give him a price.



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Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$\underline{\$21.50n = c}$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$\underline{\$70 + \$18n = c}$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

\$35 more

$$\begin{array}{r} 18 \\ \times 30 \\ \hline 540 \\ + 70 \\ \hline \boxed{\$610} \end{array} \quad \text{Top Print}$$

$$\begin{array}{r} 21.50 \\ \times 30 \\ \hline \boxed{\$645} \end{array} \quad \text{Print It}$$

$$\begin{array}{r} 645 \\ - 610 \\ \hline \boxed{35} \end{array}$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

20

I started from 1 & plugged it in both equations in place of variable "n" & then continued until "Top Print" & "Print It" had equal or more prices.

9

Baseball Jerseys

S1

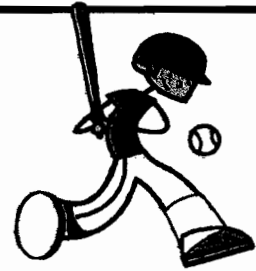
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$$21.50n = c$$

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Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$70 + 18n = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

$$\begin{array}{r}
 18 \\
 \times 30 \\
 \hline
 540 \\
 + 70 \\
 \hline
 610
 \end{array}$$

$$\begin{array}{r}
 21.50 \\
 \times 30 \\
 \hline
 645
 \end{array}$$

$$\begin{array}{r}
 645 \\
 - 610 \\
 \hline
 35
 \end{array}$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

21 JERSEYS

$$\begin{array}{l}
 \text{PRINT IT} \downarrow \\
 21.50(21) = \$451.50 \quad \text{WHILE} \quad \text{TOP PRINT} \downarrow \\
 70 + 18(21) = \$448
 \end{array}$$

Baseball Jerseys

S2

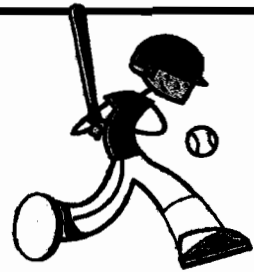
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1. 'Print It' will charge \$21.50 each for the jerseys.

Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

~~$21.50n$~~

$21.50n = c$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$18n + 70 = c$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

\$35 more

Top Print { $18(30) + 70$
 $= 540 + 70$
 $= 610$

Print it { $21.50(30)$
 $= 645$

$645 - 610 = 35$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

more than 20 jerseys

$21.50n < 18n + 70$ $3.5n < 70$ $n < 20$
 $-18n$ $-18n$ 3.5 3.5
 $3.5n < 70$ $n < 20$

Baseball Jerseys

S3

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- work with equations that represent real life situations

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1. 'Print It' will charge \$21.50 each for the jerseys.

Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$21.50 * n = c$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$(18 * n) + 70 = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

$$\begin{array}{r} 21.50 \\ \times 30 \\ \hline 645.00 \\ \hline 645.00 \\ \hline 645.00 \end{array}$$

$$\$645.00$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

20 jerseys

around 20 jerseys

I estimated 3 times and used
the expressions from 1 and 2.

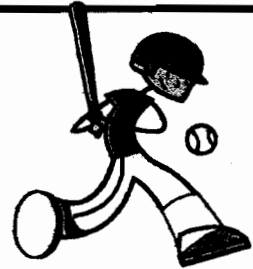
Baseball Jerseys

S4

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Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$21.50n = c$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$18n + 70 = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?
Show all your calculations.

$$\underline{\$35.00}$$

$$451.50$$

$$30 \times 21.50 = 645$$

$$30 \times 18 + 70 = \underline{610}$$
$$\$35.00$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

20

I figured them out until I found
at the difference that I kept
on multiplying the numbers

Baseball Jerseys

S5

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Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$\underline{\$21.5n = c}$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$\underline{\$70 + 18n = c}$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

$$\underline{\$35}$$

$$\begin{aligned} 21.5n &= c \\ 21.5 \times 30 &= c \\ 645 &= c \\ \uparrow \\ \text{Print It} \end{aligned}$$

$$\begin{aligned} 70 + 18n &= c \\ 70 + 18 \times 30 &= c \\ 70 + 540 &= c \\ 610 &= c \end{aligned}$$

$$645 - 610 = 35$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

5 jerseys

$$\underline{21.5n = c = 21.5 \cdot 5 = c, 107.5 = c; 70 + 18n = c, 70 + 18 \cdot 5 = c}$$

$$\underline{70 + 90 = c, c = 160}$$

Baseball Jerseys

S6

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$$70 + 18n = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

\$35 more

$$18 \times 30 + 70 = 610$$

$$645 - 610$$

$$21.50 \times 30 = 645$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

21 because

② if you buy 20 jerseys, they cost the same,
430. So you need to buy 21 of them.

Baseball Jerseys

S7

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1. 'Print It' will charge \$21.50 each for the jerseys.

Using n for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Print It'.

$$(n)(21.50) = c$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$(n)(18) = c + 70$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

$$(30)(21.50) = 645$$
$$(30)(18) = 540 + 70 = 610$$
$$645 - 610 = 35$$

\$35

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

Baseball Jerseys

S8

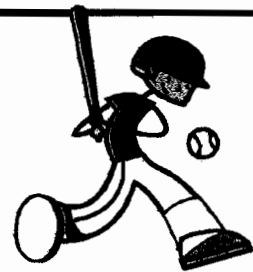
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$$\underline{\$21.50n = c}$$

2. 'Top Print' has a one-time setting up cost of \$70 and then charges \$18 for each jersey.

Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$\underline{70 + 18n = c}$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?
Show all your calculations.

\$35

$$70 + 18(30) = \$610$$

$$21.50(30) = \$645$$

Print It 250
15 + 1/2
Top Print 430
21 250

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

10 jerseys

because of guess and check

Baseball Jerseys

S9

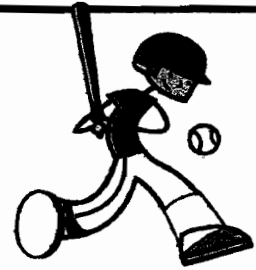
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$$\$21.50n = c$$

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Using n to stand for the number of jerseys ordered, and c for the total cost in dollars, write an equation to show the total cost of jerseys from 'Top Print'.

$$\$70 + \$18n = c$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

\$35

$$21.50 \times 30 = \$645$$

$$18 \times 30 = \$540 + 70$$

$$= \$610$$

$$\$645 - \$610 = \$35$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

20 jerseys

$$\$21.50n > \$70 + \$18n$$

$$\$3.50n > \$70$$

$$n = 20$$



Baseball Jerseys

\$10

This problem gives you the chance to:

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$$c = 21.5n$$

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$$c = 70 + 18n$$

3. Bill decides to order 30 jerseys from 'Top Print'.

How much more would the jerseys cost if he buys them from 'Print It'?

Show all your calculations.

$$c = 70 + 18(30)$$

$$c = 610$$

$$c = 21.5n$$

$$c = 645$$

$$\$35$$

4. Use the two equations from questions 1 and 2 to figure out how many jerseys Bill would need to buy for the price from 'Top Print' to be less than from 'Print It'.

Explain how you figured it out.

$$\# \text{ of jerseys} < 20$$

$$c = 21.5(20) = 430$$

$$c = 70 + 18(20) = 430$$