

Farmer Brown has chickens and horses. Every night, to make sure they are all there, he counts heads and legs. If he counts 34 heads and 100 legs, how many horses and chickens does Farmer Brown have?



$$4 \times 25 = 100$$

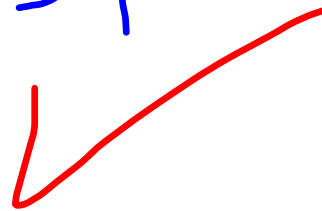
$$18 \times 4 = 72$$

$$\begin{array}{r} 14 \times 2 = 28 \\ \hline 32 \end{array} \qquad \begin{array}{r} 28 \\ \hline 100 \end{array}$$

$$16 \times 4 = 64$$

$$18 \times 2 = 36$$

$$\begin{array}{r} 34 \\ \hline 100 \end{array}$$



Farmer Brown has chickens and horses. Every night, to make sure they are all there, he counts heads and legs. If he counts 34 heads and 100 legs, how many horses and chickens does Farmer Brown have?



$$34 \times 2 = 68 \quad \checkmark 100/$$

$$100 - 68 = \frac{32}{2} = 16 \text{ horses}$$

$$34 - 16 = 18 \text{ chickens}$$

$$18 \times 2 + 16 \times 4 = 100$$

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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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16	H
18	C
<hr/>	
100	
0	
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Farmer Brown has chickens and horses. Every night, to make sure they are all there, he counts heads and legs. If he counts 34 heads and 100 legs, how many horses and chickens does Farmer Brown have?



$$2c + 4h = 100$$

$$c + h = 34$$

$$(34 - c) = h$$

$$2c + 4(34 - c) = 100$$

$$2c - 4c + 136 = 100$$

$$-2c + 136 = 100$$

$$36 = 2c \quad c = 18$$

## Problem Solving Strategy Menu

- Act it out
- Use a model
- Draw a picture
- Guess and test
- Look for a pattern
- Use an open sentence
- Make a chart / table or graph
- Solve a simpler problem
- Consider all possibilities
- Consider extreme cases
- Make an organized list
- Work backwards
- Use logical reasoning
- Change your point of view

Questions to consider:

Why does this problem work out? What are the conditions necessary to make it work?

Would the problem work if I asked about chickens and cows? What about chickens and turkeys or horses and cows? Explain.

$$\begin{array}{r} 27 \\ + 34 \\ \hline 61 \end{array}$$
$$\begin{array}{r} 27 \\ + 34 \\ \hline 61 \end{array}$$
$$\begin{array}{r} 30 \\ + 30 \\ + 1 \\ \hline 61 \end{array}$$
$$\begin{array}{r} 50 \\ 11 \\ \hline 61 \end{array}$$
$$\begin{array}{r} 30 \\ + 31 \\ \hline 61 \end{array}$$
$$\begin{array}{r} 11 \\ 50 \\ \hline 61 \end{array}$$

$$\begin{array}{cccccc} 27 & 37 & 47 & 57 & 61 & \\ \text{---} & \text{---} & \text{---} & \text{---} & \nearrow & \\ +10 & +10 & +10 & +4 & & \end{array}$$

$$\begin{array}{l} 34 + 27 \\ 40 + 21 \end{array}$$

$$\begin{array}{l} 16 \times 25 \\ 4 \times 4 \times 25 \\ 10 \times 25 + 6 \times 25 \end{array}$$

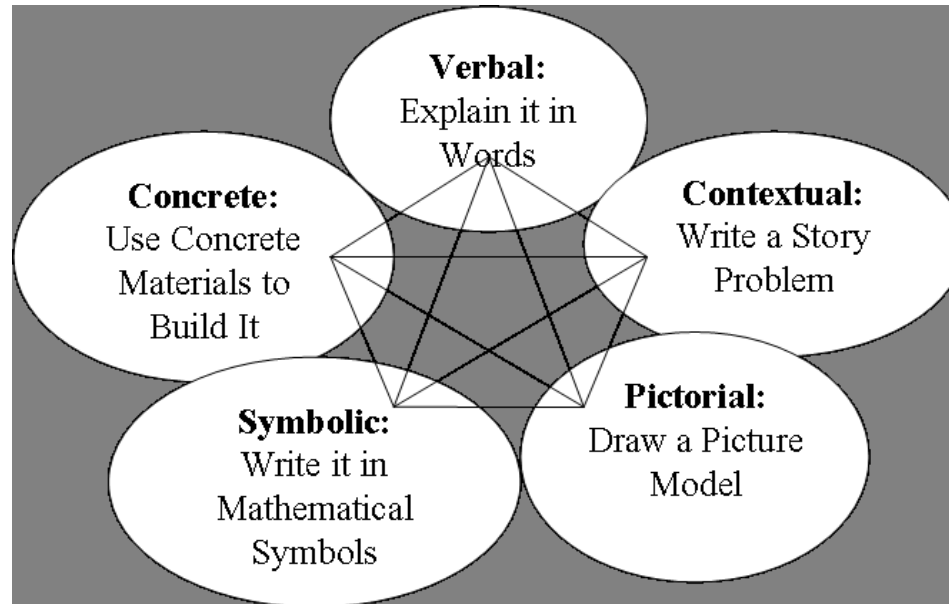
# Processes and Standards

## Big Ideas!

## Resources on the Website







## Attachments

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NCTM Principles and Standards\_ elem.ppt

NCTM Overview\_elem09.ppt

Key Ideas In Content.ppt