

<b>Student Task</b>	Determine the cost of apples from the rates given. Solve to find the number of pounds of apples that could be purchased for \$30. Compare the two pricing structures for apples.
<b>Core Idea 3 Algebra and Functions</b>	<b>Understand relations and functions, analyze mathematical situations, and use models to solve problems involving quantity and change.</b> <ul style="list-style-type: none"><li>• Model and solve contextualized problems involving inequalities</li><li>• Use graphs to analyze the nature of changes on quantities in linear relationships</li></ul>
<b>Core Idea 2 Mathematical Reasoning</b>	<b>Employ forms of mathematical reasoning and justification appropriately to the solution of a problem.</b> <ul style="list-style-type: none"><li>• Invoke problem-solving strategies</li><li>• Use mathematical language to make complex situations easier to understand</li></ul>

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## Picking Apples

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This problem gives you the chance to:

- work out costs from given rules

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Anna goes to pick apples.  
She sees two orchards next to each other; David's orchard and Pam's orchard.  
The signs below are at the entrance to the orchards.

<p><b>DAVID'S APPLE ORCHARD</b> <b>Pick your own apples!</b></p> <p>First 10 pounds \$2 per pound</p> <p>Each additional pound \$1 per pound</p>	<p><b>PAM'S ORCHARD</b> <b>DELICIOUS APPLES</b></p> <p>\$10 entry fee</p> <p>First 10 pounds \$1.50 per pound</p> <p>Each additional pound \$0.75</p>
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Anna wants to pick 40 pounds of apples.

1. a. How much does this cost at David's orchard? \_\_\_\_\_

Show your calculations.

b. How much does it cost at Pam's orchard? \_\_\_\_\_

Show your calculations.

Chris has \$30 to spend.

2. a. How many pounds of apples will he get if he goes to David's orchard? \_\_\_\_\_

Explain how you figured it out.

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- b. If Chris goes to Pam's orchard, how many pounds of apples will he get? \_\_\_\_\_

Explain how you figured it out.

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3. How many pounds of apples must Chris pick before Pam's orchard is cheaper than David's?

Show your work. \_\_\_\_\_

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Picking Apples		Rubric	
The core elements of performance required by this task are: • work out costs from given rules  Based on these, credit for specific aspects of performance should be assigned as follows		points	section points
1.	a. Gives correct answer: <b>\$50</b>  Shows correct work such as: $10 \times \$2 + 30 \times \$1$  b. Gives correct answer: <b>\$47.50</b>  Shows correct work such as: $\$10 + 10 \times \$1.50 + 30 \times \$0.75$	1  1  1  1	4
2.	a. Gives correct answer: <b>20</b> pounds  Gives a correct explanation such as: The first 10 pounds of apples cost \$20. The remaining \$10 buys 10 pounds. Altogether $10 + 10 = 20$ pounds.  b. Gives correct answer: <b><math>16\frac{2}{3}</math></b> pounds (accept 16)  Gives a correct explanation such as: The entry fee is \$10. The first 10 pounds of apples cost \$15. The remaining \$5 buys 6.6 (accept 6) pounds. Altogether $10 + 6.6 = 16.6$ pounds (accept 16)	1  1  1  1	4
3.	Gives correct answer: <b>more than 30</b> pounds (Accept 31)  Shows work such as: David's: $10 \times \$2 + 20 \times \$1 = \$40$ Pam's: $\$10 + 10 \times \$1.50 + 20 \times \$0.75 = \$40$ <b>or</b> Draws a correct graph	1  1  1	2
<b>Total Points</b>			<b>10</b>