

Packet 3: Proportional Reasoning Applications

Dear Parents/Guardians,

Proportional Reasoning: Packet 3 applies proportional reasoning strategies from Packets 1 and 2 to solve problems, including 'best buy' and scale drawings.

Strategies for Solving Proportional Reasoning Problems

Students choose strategies to solve proportional reasoning problems. A few are illustrated below.

How much will 5 pencils cost if 6 pencils cost \$1.68?

Table					Unit Rate
	$\div 2$	$\div 3$	$\times 5$		6 pencils cost \$1.68. The unit rate (the cost of 1 pencil):
Cost (\$)	1.68	0.84	0.28	1.40	$\frac{\$1.68}{6} = \0.28
# of pencils	6	3	1	5	The cost of 5 pencils: $5(\$0.28) = \1.40

5 pencils cost \$1.40.

Double Number Line

Create an equation from the double number line and solve.

$$\frac{x}{5} = \frac{1.68}{6} \quad \longrightarrow \quad 6x = 1.16(5)$$

$$6x = 8.40$$

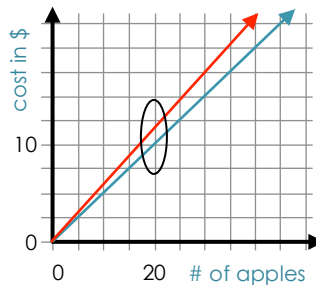
$$x = 1.40$$

Best Buy Problems

Students use proportional reasoning strategies to determine the better buy.

Apple Annie charges \$2 for 4 apples. Core 'n More charges \$3 for 5 apples. At these rates, which is the better deal?

Apple Annie's		Core 'n More	
# of apples	cost (\$)	# of apples	cost (\$)
4	2.00	5	3.00
8	4.00	10	6.00
12	6.00	15	9.00
16	8.00	20	12.00
20	10.00	25	15.00



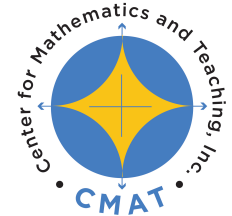
Apple Annie's is the better deal since you can get the same number of apples for cheaper.

These trend lines show the apples cost less at Apple Annie's (blue).

Scale Drawings

Students draw figures to scale of the original.

Original Figure Scale Factor is 1 Scale 1 : 1	Enlarged Figure Scale Factor is 2 Scale 2 : 1	Reduced Figure Scale Factor is $\frac{1}{2}$ Scale $\frac{1}{2}$: 1
6 units \times 6 units	12 units \times 12 units	3 units \times 3 units



PROPORTIONAL REASONING PACKET 3

By the end of the packet, your student should know...

- How to solve proportional reasoning problems using various methods. [Lesson 3.1](#)
- Use tables, graphs and equations to determine the better buy. [Lesson 3.2](#)
- Determine if quantities are in a proportional relationship. [Lessons 3.2 and 3.3](#)
- Read and analyze drawings made to scale. [Lesson 3.3](#)

Additional Resources

For additional information and strategies, please refer to section 3.5.