

## 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.

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

$$6x = 8.40$$

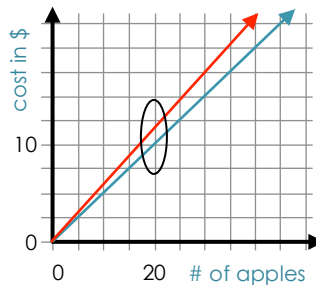
$$x = 1.40$$

### 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



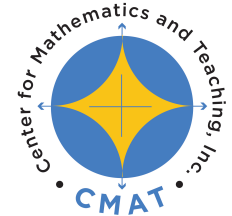
Apple Annie's is the better deal since you can get the same number of apples for cheaper.

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.