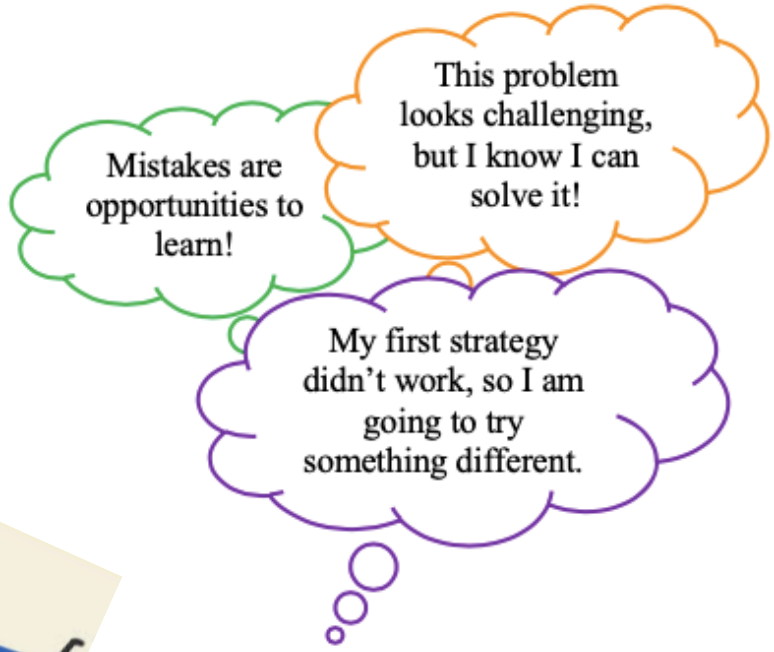
Make sense of problems and persevere in solving them.

Student Mathematical Practice 1

I can make sense of problems and keep trying until I solve them.

$A = \pi r^2$



AMSTI
Alabama Math, Science, and Technology Initiative

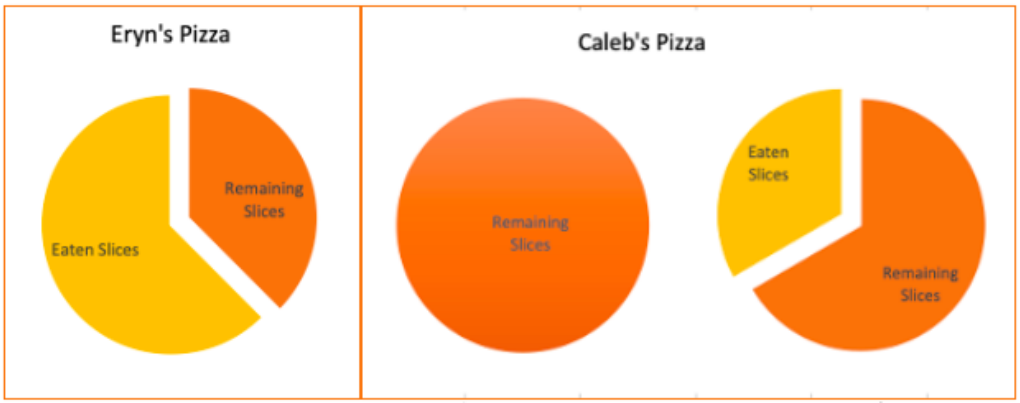
Reason abstractly and quantitatively.

Student Mathematical Practice 2

I can think about a math situation in words and symbols.

$$\frac{3}{8} < \frac{5}{3}$$

Eryn has $\frac{3}{8}$ of pizza left which Caleb says is less than the $\frac{5}{3}$ of pizza he has left.

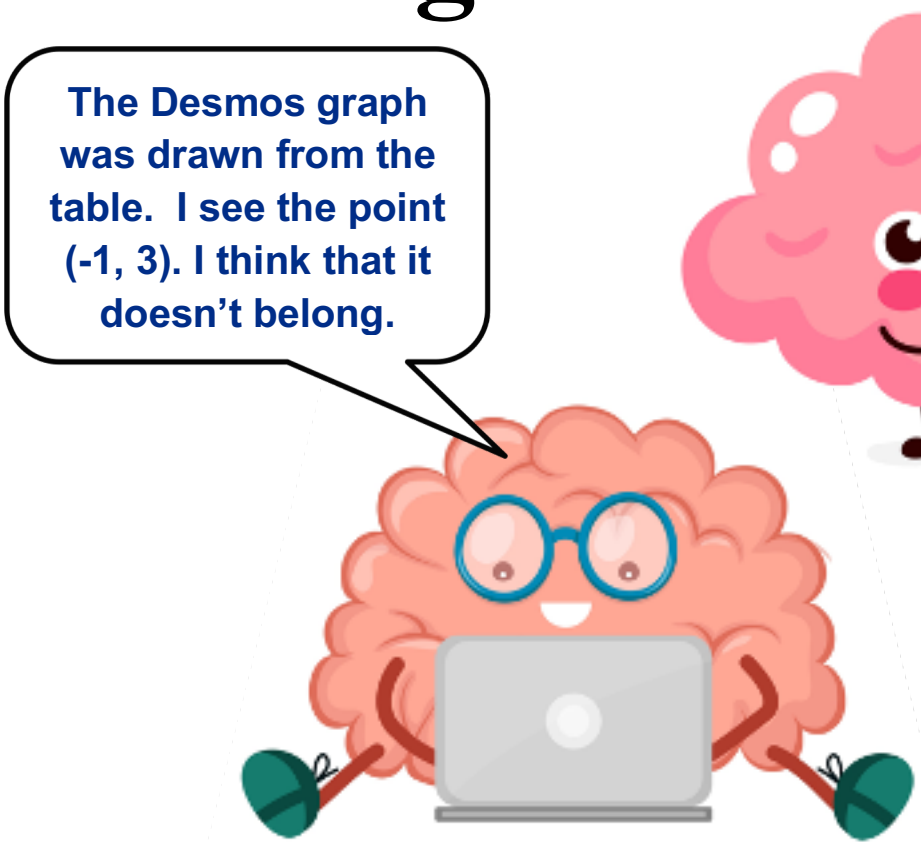


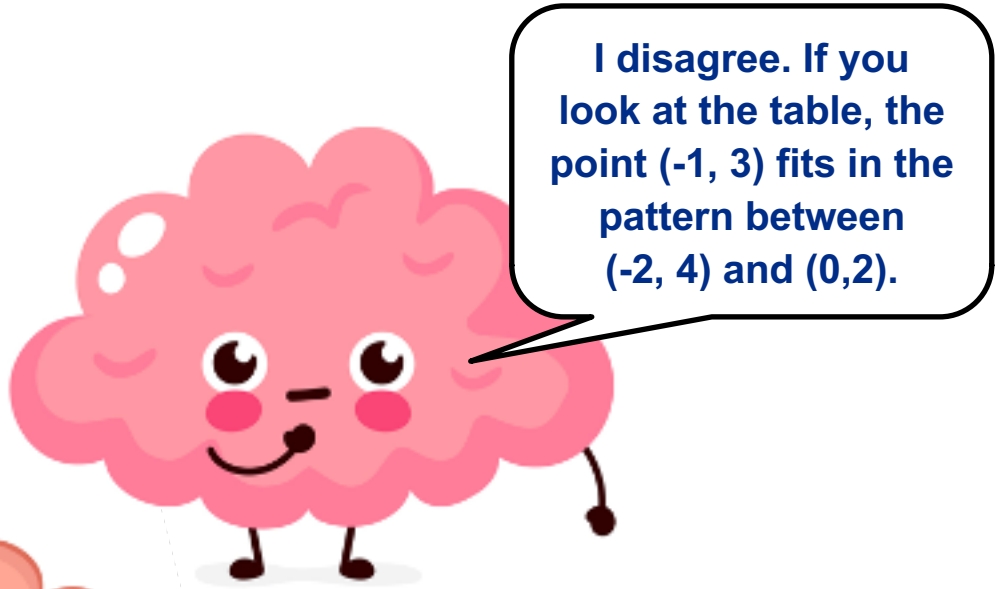
AMSTI
Alabama Math, Science, and Technology Initiative

Construct viable arguments and critique the reasoning of others.

Student Mathematical Practice 3

I can explain my thinking and make sense of my classmates' thinking.





AMSTI
Alabama Math, Science, and Technology Initiative

Model with mathematics.

Student Mathematical Practice 4

I can use math to solve real-world problems.

It takes $\frac{1}{2}$ gallon of paint $\frac{1}{3}$ of one of the gym walls.
Kyle constructed the following table to determine how much paint he would need for all four walls.

Portion of wall	$\frac{1}{3}$	$\frac{2}{3}$	$\frac{3}{3}$ or 1	$\frac{12}{3}$ or 4
Gallons of paint	$\frac{1}{2}$	$\frac{2}{2}$ or 1	$\frac{3}{2}$ or $1\frac{1}{2}$	$\frac{12}{2}$ or 6

What is the volume of ice cream inside the cone?

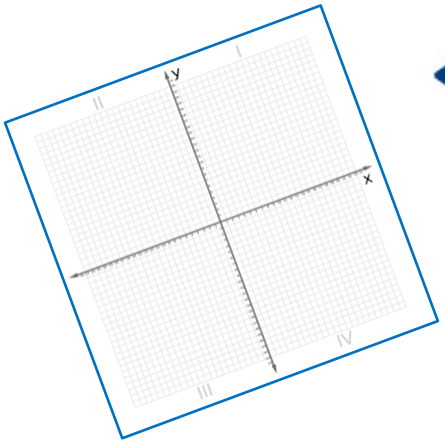
You have $12 and have to give a friend $3.75. How much will you have left?

AMSTI
Alabama Math, Science, and Technology Initiative

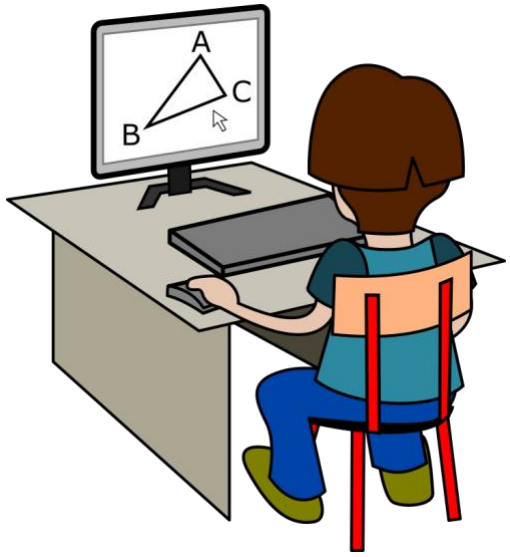
Use appropriate tools strategically.

Student Mathematical Practice 5

I can use the best tools to solve a problem.



X	Y
1	2
2	5
3	8



$y = kx$

$y = mx + b$

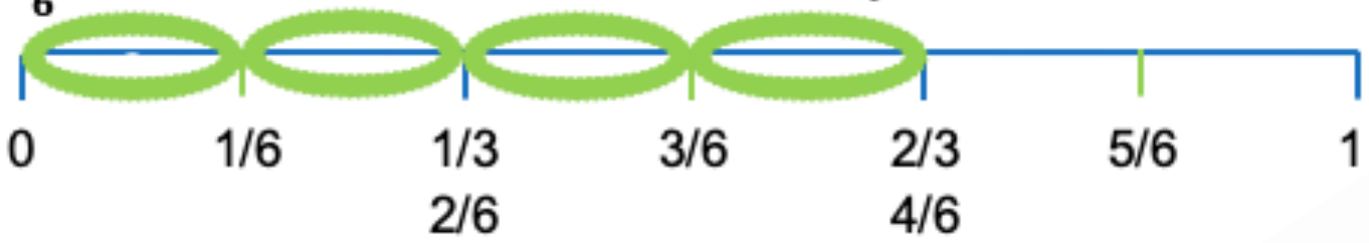
AMSTI
Alabama Math, Science, and Technology Initiative

Attend to precision.

Student Mathematical Practice 6

My thinking is clear and my answers are correct.

Keenan has $\frac{2}{3}$ of an hour to make cards. It takes him $\frac{1}{6}$ hour to make each card. How many cards can he make?



$\frac{2}{3}$ *hour* $\div$ $\frac{1}{6}$ *hour per card* $=$ 4 *cards*

symbols

units of measure

context

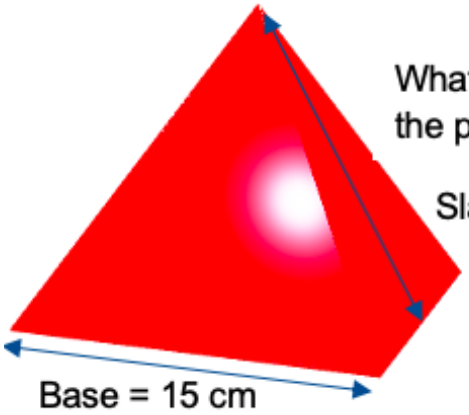
check: $4 \times \frac{1}{6} = \frac{4}{6} = \frac{2}{3}$

AMSTI
Alabama Math, Science, and Technology Initiative

Look for and make use of structure.

Student Mathematical Practice 7

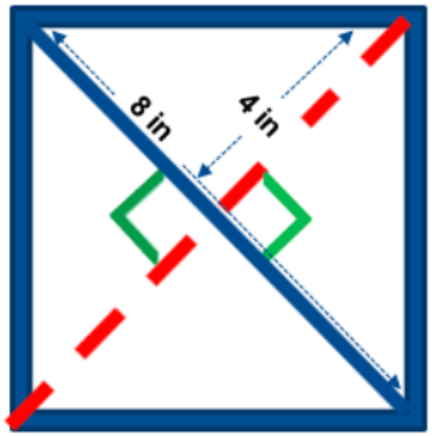
I look for patterns and use them to make problems easier to solve.



What is the surface area of the pyramid?

Slant height = 18 cm

$A = 2bs + b^2$



$\frac{1}{2}$ b x h = area of ▲

$\frac{1}{2}$ (8 in) x 4 in = 16 in²

2 triangles ∴

2 (area of ▲) = the area of ■

2 x 16 in² = 32 in²

x2

Week	Total Amount of Money Saved
1	$1.50
2	$3.00
3	$4.50
4	$6.00
5	?

x2

AMSTI
Alabama Math, Science, and Technology Initiative

Look for and express regularity in repeated reasoning.

Student Mathematical Practice 8

I notice when calculations are repeated and understand when I can take shortcuts.

$$\frac{a}{b} \div \frac{c}{d} = \frac{\frac{a}{b}}{\frac{c}{d}} = \frac{ad}{bc}$$

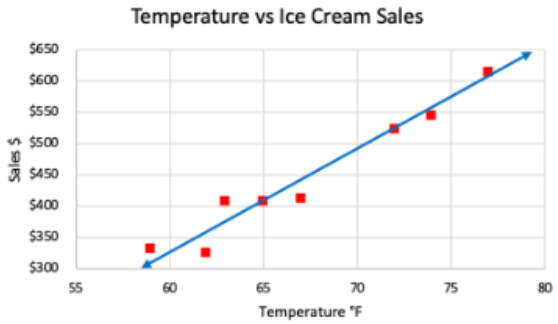
Give a probability model for flipping a coin.

Sample space S = {heads, tails}

Each outcome has Probability (P) = $\frac{1}{2}$

Outcome	Heads	Tails
Probability	$\frac{1}{2}$	$\frac{1}{2}$

Temperature vs Ice Cream Sales	
74	$544
62	$325
63	$408
59	$332
65	$406
72	$522
67	$412
77	$614



$105 \div 5 = 21$

$10.5 \div 5 = 2.1$

$1.05 \div 5 = 0.21$

$0.105 \div 5 = 0.021$

AMSTI

Alabama Math, Science, and Technology Initiative

SMP #1
Make Sense of Problems & Persevere in Solving Them.

Make Sense &
Keep Trying

SMP #2
Reason abstractly and quantitatively.

Think with Words
& Symbols

SMP #3
Construct viable arguments & critique reasoning of others.

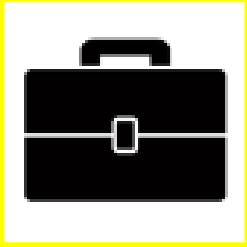
Explain my Thinking
& Thinking of Others

SMP #4
Model with mathematics.

Graphs, Words, Symbols
For Real World Math

SMP #5
Use appropriate tools strategically.

Best Tools
For Problems

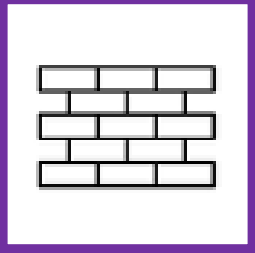


SMP #6
Attend to precision.

Clear Thinking &
Correct Answers

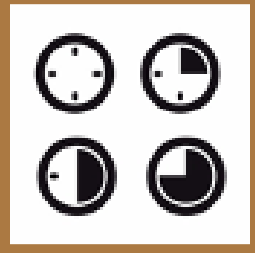
SMP #7
Look for and make use of structure.

Patterns & Structure
to Make Easier



SMP #8
Look for and express regularity in repeated reasoning.

Repeated Calculations
& Short Cuts



SMP #1
Make Sense of Problems & Persevere in Solving Them.

Make Sense & Keep Trying

SMP #2
Reason abstractly and quantitatively.

Think with Words & Symbols

SMP #3
Construct viable arguments & critique reasoning of others.

Explain my Thinking & Thinking of Others

SMP #4
Model with mathematics.

Graphs, Words, Symbols For Real World Math

SMP #5
Use appropriate tools strategically.

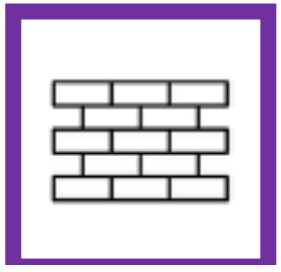
Best Tools For Problems

SMP #6
Attend to precision.

Clear Thinking & Correct Answers

SMP #7
Look for and make use of structure.

Patterns & Structure To Make Easier



SMP #8
Look for and express regularity in repeated reasoning.

Repeated Calculations & Short Cuts

SMP #1
Make Sense of Problems & Persevere in Solving Them.

Make Sense & Keep Trying

SMP #2
Reason abstractly and quantitatively.

Think with Words & Symbols

SMP #3
Construct viable arguments & critique reasoning of others.

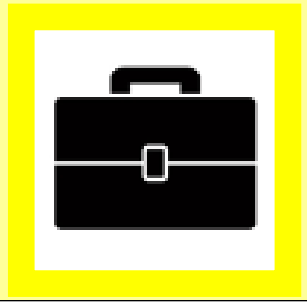
Explain my Thinking & Thinking of Others

SMP #4
Model with mathematics.

Graphs, Words, Symbols For Real World Math

SMP #5
Use appropriate tools strategically.

Best Tools For Problems

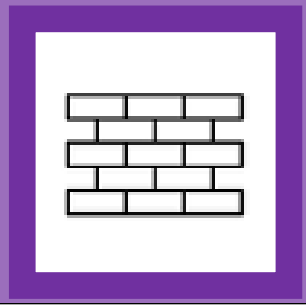


SMP #6
Attend to precision.

Clear Thinking & Correct Answers

SMP #7
Look for and make use of structure.

Patterns & Structure to Make Easier



SMP #8
Look for and express regularity in repeated reasoning.

Repeated Calculations & Short Cuts