

# Mathematics Grade 6 Unit 01: Numerical Understanding: Whole Numbers, Fractions, Decimals, and Integers 2012-2013



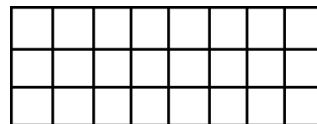
- 1 Candy bought snacks at the bulk bins for a meeting after school. The table shows the amounts of each type of snack that she bought.

Type of Snack	Amount (lb.)
Puffed Peas	$\frac{5}{2}$
Chex Mix	$\frac{15}{8}$
Sesame Sticks	$2\frac{5}{8}$
Mixed Dried Fruit	$\frac{7}{4}$

Which of the following lists the snacks in order from least to greatest number of pounds? Use the following models to help order the rational numbers.


- A Chex Mix, Mixed Dried Fruit, Puffed Peas, Sesame Sticks
- B Sesame Sticks, Puffed Peas, Chex Mix, Mixed Dried Fruit
- C Mixed Dried Fruit, Chex Mix, Sesame Sticks, Puffed Peas
- D Mixed Dried Fruit, Chex Mix, Puffed Peas, Sesame Sticks

- 2 At a health fair, only 8 out of 24 people could complete more than 2 push-ups. Which of the following shows the equivalent fraction of people who could complete more than 2 push-ups? Use the model below to help answer the question.



- F  $\frac{3}{4}$
- G  $\frac{2}{3}$
- H  $\frac{1}{3}$
- J  $\frac{1}{4}$

- 3 During a recent football game, Brooke kept a record for the coach. The [+/-] column is the amount of yards gained or lost for each play.

Play #	Yards gained or lost	[+/-]
1	gain of 4	+4
2	loss of 6	
3	loss of 10	
4	gain of 4	
5	loss of 12	

Fill in the +/- column to show the amount of yards gained or lost on each play. The first play is completed for you.

- 4 On one January day in Dallas, the temperature at 8:00 a.m. was 35 °F. By 10:00 a.m., the temperature dropped 6 degrees. Then it rose 15 degrees by noon and rose 5 more degrees by 4:00 p.m. Finally, it dropped 11 degrees by 10:00 p.m. What integer could be used to describe the temperature change between 10:00 a.m. and noon?

- 5 Anna has saved \$45 of her allowance. She needs \$100 to register for a skateboard event this summer. What fraction of the registration fee did she save? Express your solution as a decimal. Use the grid below to help answer the question.

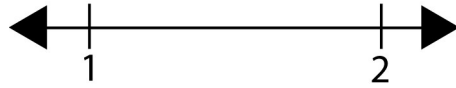

				.		
0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

- 6 This table shows record low temperatures for some states.

<b>State</b>	<b>Record Low</b>
Alabama	- 27 °F
California	- 45 ° F
Hawaii	12 °F
Nebraska	- 47 °F
Texas	9 °F
Oklahoma	

If Oklahoma's record low temperature is the opposite of Hawaii's record low temperature, what integer represent Oklahoma's record low temperature?

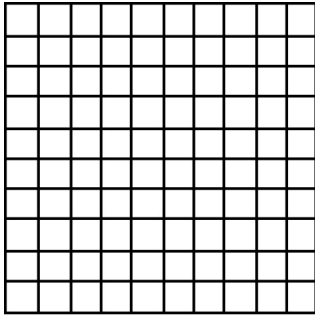
- 7 Mr. Wang bought four packages of ground beef. The actual weights of the four packages were  $1\frac{1}{8}$ , 1.05, 1.215, and 1.058. Put the actual weights of these packages of ground beef in order from lightest to heaviest. Use the number line below to help put them in order.



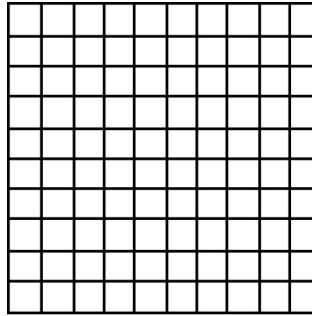
8

On a 20-question math test, John answered  $\frac{9}{10}$  of the questions correctly, Mary answered  $\frac{4}{5}$  of the questions correctly, and Pat answered  $\frac{17}{20}$  of the questions correctly.

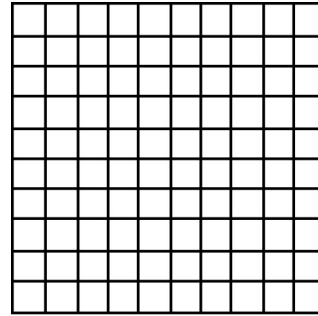
a) Shade in each 100 grid to represent each person.



John



Mary



Pat

b) Which student MISSED the most questions?

**9** Express  $\frac{9}{10}$  as a decimal.

				.		
0	0	0	0		0	0
1	1	1	1		1	1
2	2	2	2		2	2
3	3	3	3		3	3
4	4	4	4		4	4
5	5	5	5		5	5
6	6	6	6		6	6
7	7	7	7		7	7
8	8	8	8		8	8
9	9	9	9		9	9

**10** Explain why  $\frac{3}{4}$  is greater than  $\frac{5}{8}$ .

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**11** For each fraction listed below, generate an equivalent decimal form.

$$\frac{7}{10} = \underline{\hspace{2cm}}$$

$$\frac{4}{5} = \underline{\hspace{2cm}}$$

$$\frac{9}{5} = \underline{\hspace{2cm}}$$

What is the order from LEAST to GREATEST.

- A** 0.4, 0.7, 0.9
- B** 0.7, 0.8, 1.4
- C** 0.7, 0.8, 1.8
- D** 1.4, 1.7, 1.8

**12** Jan had \$500 in her bank account. She wrote a check for \$125 at a doctor's visit. What fraction of her bank account did she spend that day?

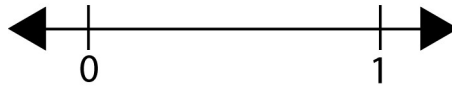
- F**  $\frac{1}{4}$
- G** 0.4
- H** 0.35
- J**  $\frac{1}{2}$



- 13** A bag of cough drops contains 36 drops. The fraction of each flavor is shown in the table below.

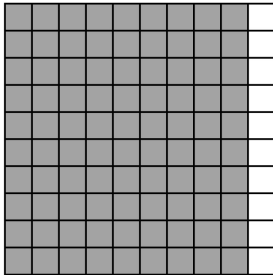
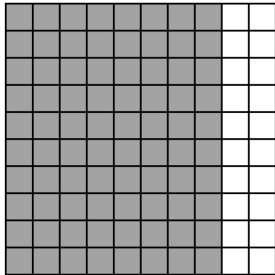
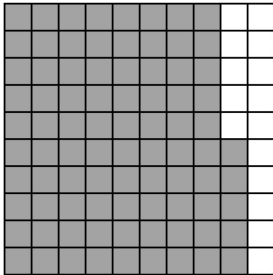
Flavor	Fraction
Strawberry	$\frac{5}{12}$
Honey	$\frac{1}{12}$
Cherry	$\frac{1}{6}$
Mint	$\frac{1}{9}$
Lemon	$\frac{1}{4}$

Which flavor has the greatest number of drops in the bag? Use the number line below to help answer the question.



## Test Key

### Mathematics Grade 6 Unit 01: Numerical Understanding: Whole Numbers, Fractions, Decimals, and Integers 2012-2013

##	Item #	Correct Answer	Primary SE	Secondary SE	Obj/Cat																		
1	M061104861D	D	6.1(A) [S]	None	STAAR: M1																		
2	M061104921D	H	6.1(B) [R]	6.11(A) [P]	STAAR: M1																		
3	M06025332CS	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Play #</th> <th>Yards gained or lost</th> <th>+/-</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>gain of 4</td> <td>+4</td> </tr> <tr> <td>2</td> <td>loss of 6</td> <td>-6</td> </tr> <tr> <td>3</td> <td>loss of 10</td> <td>-10</td> </tr> <tr> <td>4</td> <td>gain of 4</td> <td>+4</td> </tr> <tr> <td>5</td> <td>loss of 12</td> <td>-12</td> </tr> </tbody> </table>	Play #	Yards gained or lost	+/-	1	gain of 4	+4	2	loss of 6	-6	3	loss of 10	-10	4	gain of 4	+4	5	loss of 12	-12	6.1(C) [S]	None	STAAR: M1
Play #	Yards gained or lost	+/-																					
1	gain of 4	+4																					
2	loss of 6	-6																					
3	loss of 10	-10																					
4	gain of 4	+4																					
5	loss of 12	-12																					
4	M061094540D	+15	6.1(C) [S]	None	STAAR: M1																		
5	M06025455CS	0.45	6.1(B) [R]	None	STAAR: M1																		
6	M061094533D	-12	6.1(C) [S]	6.11(A) [P]	STAAR: M1																		
7	M061104876D	1.05, 1.058, $1\frac{1}{8}$ , 1.215	6.1(A) [S]	None	STAAR: M1																		
8	M061104848D	<p>A.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>John</p> </div> <div style="text-align: center;">  <p>Mary</p> </div> <div style="text-align: center;">  <p>Pat</p> </div> </div> <p>B. Mary</p>	6.1(A) [S]	6.12(A) [P]	STAAR: M1																		
9	M061104926D	0.9	6.1(B) [R]	None	STAAR: M1																		
10	M061104914D	$\frac{3}{4}$ is equivalent to $\frac{6}{8}$ , which is larger than $\frac{5}{8}$ .	6.1(A) [S]	6.12(A) [P]	STAAR: M1																		
11	M06016312CS	C	6.1(B) [R]	None	STAAR: M1																		
12	M06016313CS	F	6.1(B) [R]	None	STAAR: M1																		

13	M061104844D	Strawberry	6.1(A) [S]	None	STAAR: M1
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