Get Ready

Name: _____ Date: _____

Numbers Between

The whole numbers that are between 7 and 13 are 8, 9, 10, 11, and 12.

The difference between 13 and 7 is 6. $13 - 7 = 6$
Half this difference is 3. $6 \div 2 = 3$
The number 10 is halfway between 7 and 13. $7 + 3 = 10$ or $13 - 3 = 10$

1. List the whole numbers between

a) 68 and 72

b) 108.3 and 111.6

2. What number is halfway between the given numbers?

a) 70 and 170

b) 1801 and 1813

c) 18.4 and 6.2

3. Is the number in the box closer to the number on the left or the one on the right? How do you know?

a) 30 $\boxed{38}$ 40

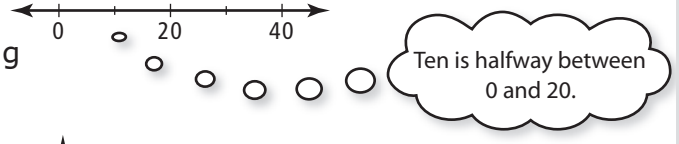
b) 0.6 $\boxed{3.4}$ 6.6

c) 0.891 $\boxed{0.732}$ 0.641

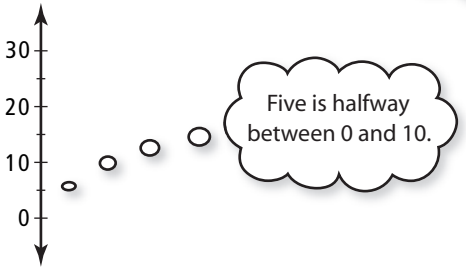
Number Lines

Number lines can show the position of one number compared with other numbers. Number lines can be horizontal or vertical. It is important to know what the smallest interval or subdivision on a number line represents.

The smallest interval on this number line is 10. Check by counting by 10s.



The smallest interval on this number line is 5. Check by counting by 5s.



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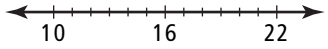
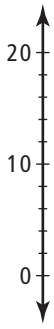
4. For each number line, what does the smallest interval represent? How do you know?

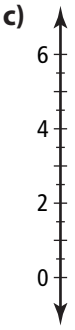
a)



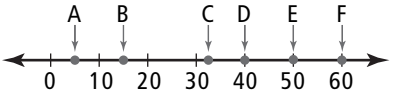
b)



c)



5.

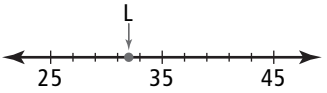


a) What letter is at 5?

b) What number is halfway between D and F?

c) If C is halfway between B and E, what number does C represent?

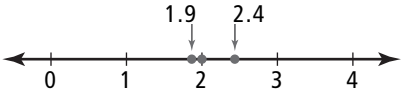
6. What are three things you know for sure about the number located at L?



Compare and Order Numbers

Words, symbols, or a number line can be used to compare and order numbers.

The number line shows the numbers 2, 1.9, and 2.4. The number 2 lies between 1.9 and 2.4.



From smallest to largest the numbers are 1.9, 2, and 2.4.

$1.9 < 2 < 2.4$

The symbol < means "is less than."

From largest to smallest the numbers are 2.4, 2, and 1.9.

$2.4 > 2 > 1.9$

The symbol > means "is greater than."

Use <, =, or > to make each statement true.

7. a) 28 ☐ 30

b) 280.1 ☐ 279.9

c) 37 ☐ 37.0

d) $\frac{1}{8}$ ☐ $\frac{3}{8}$

8. Write a correct mathematical statement using the symbol < or > to show the numbers 1.7, 1.71, and 1.701 arranged in order from largest to smallest.

9. Alicia is 6 cm taller than Andrea. Pat is 4 cm taller than Alicia.

a) Arrange the three students in order from shortest to tallest.

b) If Alicia is 84 cm tall, how tall is Pat?

Name: _____ Date: _____

4.1 Connect Fractions, Decimals, and Percents

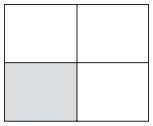
***MathLinks 7*, pp. 124–131**

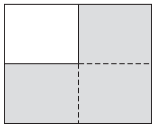
Key Ideas Review

Choose from the following terms to complete each statement, then answer each question.

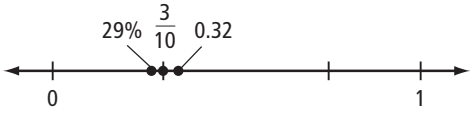
decimals	fractions	number line	percent	place value

1. A visual model can help identify the _____.

a)  _____ % is 0.25 or $\frac{1}{4}$

b)  _____ % is 0.75 or $\frac{3}{4}$

2. You can use a _____ to compare _____, decimals, and percents.



_____ < _____ < _____

3. You can use _____ to compare fractions, _____, and percents.

0.43

$\frac{4}{10}$ = _____

39% = _____

_____ < _____ < _____

Practise and Apply

4. What is 10% of each quantity? Show your thinking.

a) 75 km _____

b) $113 _____

5. What is 40% of each quantity? Show your thinking.

a) 480 students _____

b) 1500 km _____

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6. Compare the numbers in this set. Write them in descending order. Show your thinking.

97%, $\frac{99}{100}$, 0.98

_____

_____ > _____ > _____

7. Compare the numbers in this set. Write the numbers in ascending order. Show your thinking.

$\frac{1}{10}$, 1%, 0.001

_____

_____ < _____ < _____

8. Show how to find each amount.

a) 50% of 70

b) 10% of 60

c) 20% of 105

9. Calculate each amount.

a) 40% of 25 m

b) 75% of 44 apples

c) 15% of $40

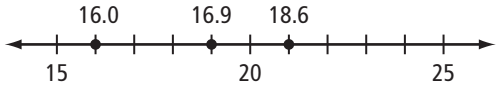
10. Use the number line to help answer the questions below.

a) What is a fraction between 20% and 40%? How do you know?

b) What is a decimal number between 80% and 100%?

c) What is a decimal number between 0% and 20% that is closer to 20%?

11. On this number line, which number is correctly placed? How do you know?



12. A store is having a 40% off sale on a $212 jacket.

a) Show how to estimate 40%.

b) Calculate the discount.

c) What is the sale price of the jacket?

Name: _____ Date: _____

4.2 Fractions, Decimals, and Percents

***MathLinks 7*, pp. 132–139**

Key Ideas Review

Choose from the following terms to complete each statement. Then complete each example.

repeating	terminating	numerator	denominator	divide

1. 0.333... is a _____ decimal. It can also be written as _____.

2. 0.3, 0.35, and 0.359 are _____ decimals. Here they are as fractions:

$0.3 = \frac{\square}{\square}$ $0.35 = \frac{\square}{\square}$ $0.359 = \frac{\square}{\square}$

3. To change $\frac{2}{5}$ to a decimal number, _____ the numerator by the _____. $\frac{2}{5} = 0.$_____.

Practise and Apply

4. Use a calculator to change each fraction to a decimal number. Round to the place value indicated.

a) $\frac{27}{50}$ (tenths) _____

b) $\frac{13}{82}$ (tenths) _____

c) $\frac{45}{112}$ (hundredths) _____

d) $\frac{204}{331}$ (hundredths) _____

e) $\frac{67}{85}$ (thousandths) _____

f) $\frac{452}{511}$ (thousandths) _____

5. Write each repeating decimal using bar notation.

a) 0.22222… _____

b) 0.010101… _____

c) 0.213213… _____

d) 2.434343… _____

6. Change each fraction to a repeating decimal. Then use bar notation to show the repeating part.

a) $\frac{1}{3}$ = _____ = _____

b) $\frac{5}{9}$ = _____ = _____

c) $\frac{9}{11}$ = _____ = _____

d) $\frac{7}{33}$ = _____ = _____

Name: _____ **Date:** _____

7. Estimate each of the following as a percent. Show your thinking.

a) 34 out of 90

b) 165 out of 400

8. Quarterbacks are compared according to their completion percentages.

$$\text{Completion percentage} = \frac{\text{Completed passes}}{\text{Attempts}}$$

Quarterback	Completed Passes	Attempts	Completion Percentage
A	231	329	
B	143	195	
C	298	401	

a) Fill in the last column by calculating the completion percentage for each quarterback. Round each answer to the nearest thousandth.

b) List the completion percentages in descending order.

_____ > _____ > _____

9. For each of the following statements, rewrite each percent or decimal as a fraction.

a) 23% of Canadians speak French. $\frac{\square}{\square}$

b) North America is 0.17 of the world's land mass. $\frac{\square}{\square}$

c) Kareem has a 0.559 field goal average. $\frac{\square}{\square}$

10. At Rocky Mountain School, 212 students take the bus and 300 students use a different mode of transportation to get to school. Estimate the percent of students who take the bus to school. Show your thinking.

Name: _____ Date: _____

4.3 Applications of Percents

***MathLinks 7*, pp. 140–145**

Key Ideas Review

1. Alyssa changed $\frac{1}{3}$ to a decimal. When she got 0.333... , she rounded this to the closest tenth and got 0.3.

a) Did Alyssa change the value of the decimal number? Explain.

b) Which is a more accurate way to show $\frac{1}{3}$? Should you use 0.333... or 0.3? Explain your thinking.

2. Min had a mark of 26 out of 31 on a science test. That same day, his sister got a mark of 45 out of 52 on a math test. Explain how to find out who got the better mark.

Practise and Apply

3. Estimate which amount is greater. Then, calculate each amount.

a) 50% of 96, or 10% of 552

Estimate: _____

Calculation: _____

b) 10% of 56, or 1% of 451

Estimate: _____

Calculation: _____

c) 60% of 72, or 15% of 364

Estimate: _____

Calculation: _____

4. Complete the table.

	1%	10%	100%
a)			450
b)		61	
c)	3.2		
d)		6.5	
e)			38

Name: _____ **Date:** _____

5. On Tuesday, a pizza restaurant sold 15 vegetarian pizzas and 64 non-vegetarian pizzas. On Wednesday, 22 vegetarian and 73 non-vegetarian pizzas were sold. On which day was a higher percent of vegetarian pizzas sold? Show your thinking.

6. Use the information in this table to answer the following questions.

Cereal Name	Mass of Sugar	Mass of Cereal	Percent of Sugar
Maize Flakes	2 g	21 g	
Glacial Flakes	13 g	34 g	
Fruit Flakes	12 g	31 g	
Product 21	3 g	23 g	

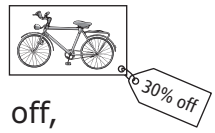
a) What is the percent of sugar in each cereal? Round each percent to the nearest tenth. Show your thinking below.

b) List the cereals in descending order of their sugar content percent.

_____ > _____ > _____ > _____

7. Mikayla gets a weekly allowance of $30. She puts 25% into a savings account each week. How much money will be in the account after four weeks? Use mental math techniques to find the answer. Show your work.

8. A mountain bike's regular price is $885.



a) If a sale offers 30% off, what will the discount be?

b) What is the sale price of the bike before tax? Show your work.

9. Carlos decides that he would like to play tennis. He jots down this shopping list with prices from a catalogue.

tennis racquet	*$112.95*
tennis shoes	*$78.50*
2 cans of tennis balls	*$3.95 each*

a) Estimate the total cost before taxes.

b) Calculate the total cost before taxes if Carlos gets a 10% discount.

Name: _____ Date: _____

Link It Together

1. For each group, circle the item that does *not* belong. Justify your answer.

a) $\frac{1}{10}$ 0.1 11% _____

b) 2.5% $\frac{1}{4}$ 0.25 _____

c) 50% of 0.6 $\frac{1}{12}$ 30% _____

2. Taylor's dad is browsing flyers, shopping for a new TV.

Store A Store B

a) Estimate the dollar discount at each store.

b) Estimate the percent discount at Store A.

c) At which store will the TV cost less? Justify your response.

d) Calculate the cost of the less expensive TV, including taxes. The family lives in a province with 7% PST. The GST is 6%.

Name: _____ Date: _____

Vocabulary Link

Choose from the following terms to complete each statement. Then provide examples. Find each word in the word search.

ascending descending terminating repeating decimal percent fraction

1. Numbers listed least to greatest are in _____ order.

2. A _____ decimal has digits that repeat forever. Examples include _____, _____, and _____.

3. _____ means "out of 100." For example, _____ means _____ out of 100, $\frac{\square}{\square}$, or _____.

4. In a _____ decimal, the digits stop. Examples include _____, _____, and _____.

5. A list from biggest to smallest is in _____ order.

6. A _____ is made up of a numerator and a denominator. For example, $\frac{\square}{\square}$.

7. Sports statistics are often recorded as a _____. For example, _____.

T	W	E	F	T	Y	U	I	O	P	D	A	S
D	U	G	I	R	J	K	L	Z	X	E	C	V
B	G	E	N	M	E	R	E	A	P	S	E	A
T	N	I	C	G	D	P	T	P	E	C	C	I
M	I	A	E	R	E	C	E	I	M	E	A	L
A	D	M	R	T	E	R	R	A	Y	N	S	D
T	N	Q	W	E	C	P	M	E	T	D	T	F
I	E	T	E	E	R	M	I	I	P	I	N	A
L	C	H	N	J	K	L	N	G	A	N	N	T
D	S	T	Z	X	F	R	A	P	I	G	B	G
A	A	J	F	R	A	C	T	I	O	N	B	V
U	G	T	H	U	M	B	I	B	I	N	G	D
D	E	C	I	M	A	L	N	A	P	O	T	X
K	C	O	U	N	T	X	G	T	R	I	P	D