## September - Grade 7 Math

5
Use algebraic expression for the following pattern:
$5,10,15,20,25, \ldots$

12
If there are 10 pennies in a piggy bank with 80 coins, what percent of coins are pennies?

19
Order the following
integers, from greatest to least:
$-3,2,-8$

26
If there are 5 blue marbles in a bag of 20 marbles, what percent of marbles are blue?

6
Convert decimals to percent: $0.50,0.75,0.33$,
0.40

13
Solve the following:
$225.005 \div 5=$

20
Solve
$9+(13-10) \div 3$
27
Describe the pattern in
words and using a
variable:
$5,8,11,14,17, \ldots$

1
Collect a graph from a newspaper or magazine. Is there a bias? What can you conclude from this

7
Find the unit price: 6 cans of pop for $\$ 2.99$
14
25 kg of Ryan's
Famous Potatoes cost
$\$ 12.95$ and 10 kg of
Gillian's Potatoes cost

21
Find the square root of 121

## 28

If there are 20 school days in September, what percent of days are spent in school?

2
Which of the following numbers are a perfect square: $24,36,48,64$, 81, 96 ?

9
Solve the following:
$2 \times 4(12-8)=$

## 16

Collect a graph from a newspaper or magazine. What trends and patterns do you notice?

## 23

Order the following integers, from least to greatest:
$0,+3,-3$

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## Monday <br> October - Grade 7 Math

| 3 Find the square root of 441 | 4 <br> Describe the pattern in words and using a variable: $42,39,36,33,30, \ldots$ | 5 <br> Collect a graph from a newspaper or magazine. What trends and patterns do you notice? | 6 What are the factors of $81,125,144$ ? | 7 <br> Use algebraic expression for the following pattern: $1,3,9,27, \ldots$ |
| :---: | :---: | :---: | :---: | :---: |
| $10$ <br> Make a list of items found in your kitchen that use decimals to hundredths (hint, look at some food labels) | 11 <br> Convert fractions to decimals: 1/10, 1/4, 2/3, $3 / 6,4 / 5$. | $12$ <br> Solve the following: $156.024 \times 4=$ | 13 <br> Use algebraic expression for the following pattern: $1,3,5,7,9, \ldots$ | $14$ <br> Find the unit price: 24 bottles of water for $\$ 4.99$ |
| 17 <br> Collect a graph from a newspaper or magazine. Is there a bias? What can you conclude from this graph? | 18 Solve the following: $34.024 \times 7=$ | 19 <br> If there are 10 pennies in a piggy bank with 80 coins, what percent of coins are NOT pennies? | 20 <br> Convert to a decimal: $30 / 40$ | 21 <br> Describe the pattern in words: $1,11,111,1111, \ldots$ |
| 24 <br> Describe the pattern in words and using a variable: $5,9,13,17, \ldots$ | $25$ <br> Describe the pattern in words and using a variable: $6,12,18,24,30, \ldots$ | $26$ <br> If there are 5 blue marbles in a bag of 20 marbles, what percent of marbles are NOT blue? | $27$ <br> Solve $(10-7) \div 3+(9-3) \times 4$ | $28$ <br> Decide if each of the following is a perfect square: <br> a) 169 and b) 88 |
| $31$ <br> Find the square root of 81 |  |  |  |  |

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## November - Grade 7 Math

7
If there are 12 dimes in a piggy bank with 40 coins, what percent of coins are dimes?

## 10

Collect a graph from a newspaper or magazine. What trends and patterns do you notice?

17
Which of the following statements is correct?

- -5 is less than -3
- -9 is greater than -4

1
Use algebraic expression for the following pattern: 12, 17, 22, 27, 32, ...

8
Describe the pattern in words:
$7,21,63,189, \ldots$.

## 11

Convert 22 \% to a fraction.

18
Order the following integers, from least to greatest:
$+4,+2,+9$

## 2

Collect a graph from a newspaper or magazine. Is there a bias? What can you conclude from this graph?

9
Convert to a decimal: 15/18

## 12

Convert to a fraction: Represent 0.55 a fraction and per cent.

19
Solve the following: $28 \div 2(4+3)=$

3
Order the following integers, from greatest to least:
$-4,-10,-2$

10
If there are 12 dimes in a piggy bank with 40 coins, what percent of coins are NOT dimes?

## 13

Construct a frequency table to organize the following data: $15,17,13$, 15, 14, 17, 17. Describe

## 20

Estimate the area of your bedroom floor using steps, remember that one big step is about 1 metre long.

4
Solve the following: $225.005 \div 5=$

11
Convert to a percent: 3/25

## 14

Which of the following numbers are a perfect square: $24,36,48,64$, 81, 96 ?

21
Convert decimals to fractions: $0.25,0.1,0.6$, 1.2, 5.5

## 29

You wake up with a temperature of $-3^{\circ} \mathrm{C}$ outside and it changed to $+5^{\circ} \mathrm{C}$ by noon. Is it warmer or colder at noon?

30
Convert 2 / 7 to a percent and decimal.

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## December - Grade 7 Math

|  |  |  | 1 <br> Which would be larger, the area of your bedroom floor, or the area of your bedroom walls? How do | 2 <br> Paint costs $\$ 16$ per Litre, how much would 250 mL of paint cost? |
| :---: | :---: | :---: | :---: | :---: |
| 5 <br> Which of the following statements is correct? <br> - $-5>-2$ <br> - $-3>-4$ | 6 <br> Which two algebraic expressions are the same? $\begin{aligned} & 3 x+1 \\ & 1-3 x \\ & 1+3 x \end{aligned}$ | 7 <br> Order the following integers, from least to greatest: $99,-99,51,1$ | 8 <br> If $x$ is a positive number, what value is larger, $3 x+1$ or $3 x-1 ?$ | 9 <br> Order the following integers, from greatest to least: $-15,-25,-9,-3$ |
| 12 <br> Add the following integers: $(+3)+(-3)$ | 13 <br> Add the following integers: $(-9)+(+11)$ | 14 <br> If you owe $\$ 9$ and you repay $\$ 5$, how much do you still owe? | 15 <br> If you borrow $\$ 11$ on Monday, $\$ 4$ on Tuesday and $\$ 8$ on Wednesday how much have you borrowed? Write this as a negative integer. | 16 <br> If there are 13 school days in December, what percent of days are spent in school? |
| 19 For the equation $4 z-1$ create a t-chart to show the term number and value, e.g., | 20 If $5 p+17=67$. What is the value of $p$ ? | 21 <br> If you are wrapping a gift box that is $30 \mathrm{~cm} \times 30$ $X 60 \mathrm{~cm}$, what is the area of wrapping paper you will | 22 <br> An object has an area of $10 \mathrm{~m}^{2}$, how many $\mathrm{cm}^{2}$ is that? | 23 <br> Circle the images that have parallel lines $\\|, \times, \nabla, \vee, \sqcap, \exists, \mathbf{3}$ |
| 26 <br> Circle the images that have angles greater than $45^{\circ}$ | 27 <br> What is the difference between a similar and congruent shape? | 28 <br> Order the following integers, from least to greatest: $+15,-12,+3,0$ | $\begin{aligned} & 29 \\ & \text { Add: } \\ & (+15)+(-13) \end{aligned}$ | $\begin{aligned} & 30 \\ & \text { Solve the following: } \\ & 64.087 \times 8= \end{aligned}$ |

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## January - Grade 7 Math



Draw a parallelogram and use one line to create two unequal trapezoids.

9
Which of the following statements is correct?

- $-32>-5$
- $-9<-13$
- $-33<-19$


## 16

Add the following:
$(+11)+(-8)$. What would you need to do to end up with an answer of -10 ?

23
An object has an area of $10 \mathrm{~m}^{2}$, how many $\mathrm{cm}^{2}$ is that?

3 Which two algebraic
expressions are the same?
$4 t+2$
4-2t
$2+4 t$
2-4t
10
Order the following integers, from least to greatest:
$15,-30,-25,4,-15$

17
Order the following integers, from least to greatest:
$+1,0,+2,-1,-$

24
Add the following:
$(-12)+(+9)$

4
If paint costs $\$ 2$ per square meter, about how much would it cost to paint your bedroom.

11
What is the difference between a parallelogram and a trapezoid?

## 18

Order the following
integers, from greatest to least:
11, -12, 13, -14, 15

25
If $5 x+2=17$. What is the value of $x$ ?

## 5

If there are 21 school days in October, what percent of days are spent in school?

12
Create a number line from -20 to +20 . Find all of the ways you can use addition and subtraction to find an answer of 7 (e.g., 20 -

19Create a number line from -15 to +15 . Find all of the ways you can use addition and subtraction to find an answer of 8 (e.g., $15-7=8$, or $-14+22=8$ )

## 26

Draw a parallelogram and use one line to create two equal trapezoids.

30 If the trapezoid from the previous question has a height of 5 cm and the length of one of the parallel sides is 12 cm , what is the length of the parallel size other side?

31 For the equation $5 t+2 t$ create a t-chart to show the term number and value,

| e.g., | Term ( t$)$ | Value |
| :--- | ---: | :--- |
| 1 | 7 |  |
| 2 | 14 |  |

6
Happy New Year!

13
Order the following integers, from greatest to least:
$-4,0,3,-2,6$

20
What is the area of a trapezoid that has a height of 2 cm and the two parallel sides have a length of 5 cm and 10 cm ?

27 Sally uses 2 trapezoids to create a hexagon. The hexagon has an area of 90 $\mathrm{cm}^{2}$, what is the area of the trapezoids she used. Sketch the hexagon. What is the perimeter of the hexagon?

Circle the images that have perpendicular lines
$\vdash, \dashv, \neq,\llcorner, *, \measuredangle$

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## February - Grade 7 Math

6
Order the following integers, from least to greatest: $-40,45,-50,55,75,-35$

13 Sally uses 6 equilateral triangles to create a hexagon. The hexagon has an area of $108 \mathrm{~cm}^{2}$, what is the area of the triangles she used. Sketch the hexagon. What is the perimeter of the hexagon?

20 For the equation $2 n+1$, create a t-chart to show the term number and value,

e.g., $\quad$ Term (n) | Value |
| :---: |
| 2 |
| 2 |

27
Which of the following
statements is correct?

- $-3<-5$
- $-9>-31$
- $-33<10$

7
Draw three different triangles that have one side 2 cm long and one side 4 cm long. Which triangle has the greatest area?

## 14

Order the following integers, from greatest to least:
$+4,+10,-15,-33$

21
What is larger, half of 20 or a fifth of 20 ?

28
Which of the following
shapes are congruent?
$\forall, \Delta, \ggg, \triangleright$

1
Order the following integers, from least to greatest:
$9,-36,-61,75,-35,-100$

8
If $7 t+4=60$, what is the value of $t$ ?

15
Order the following
integers, from greatest to least:
$+4,-5,-8,+9,+8,-6$

22
Solve:
$10 \times 1 / 2$
$10 \div 1 / 2$

## 2 Create a number line

 from -20 to +20 . Find all of the ways you can use addition and subtraction to find an answer of - 6 (e.g., $20-26=-6$,or $-7+1=-6$ )9 Create a number line from -15 to +15 . Find all of the ways you can use addition and subtraction to find an answer of - 4 (e.g., $14-18=-4$, or $-11+7=-4$ )

16
Which of the following shapes are similar?


23
Imagine a tent being put up at Brant Park.
It is a triangular prism (made up of 3 rectangles and 2 congruent triangles).

## 3

Order the following integers, from greatest to least:
11, 44, -33, -22, -55, 66

10
Add:
$(-7)+(+4)$. How much more would you need to add to reach +3 ?

17
If a car travels 50 km per hour, how far will it travel in 5 hours? How long will it take to travel 325km?

24
Imagine a spinner divided into 4 equal sections. Three sections are coloured red and one is coloured green. If you were spinning the spinner to see who goes first in a baseball game, would each team have
an equally likely chance of going first? Explain.

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## March - Grade 7 Math

|  |  |  | 1 | 2 <br> If $x$ is a negative number, what value is larger, $3 x+$ 1 or $3 x-1$ ? |
| :---: | :---: | :---: | :---: | :---: |
| 5 <br> Imagine a square based pyramid in Egypt. How many faces, edges, and vertices would it have? | $6$ <br> Solve: $\begin{aligned} & 12 \times 1 / 3 \\ & 12 \div 1 / 3 \end{aligned}$ | 7 Imagine a number cube with one different number on each face. What is the probability that I would roll any number? Express this probability as a percent. | 8Imagine a spinner divided into 3 equal sections. Two sections are coloured red and one is blue. If you were spinning to see who goes first in a game, would each team have an equally likely chance of going first? Explain. | 9 <br> Express in kilograms. <br> a) 47 g <br> b) 351 g <br> c) 14000 mg |
| 12 <br> Which is greater, $(5 / 8+1 / 2) \text { or }(1 / 4+7 / 8) ?$ <br> Write each in decimal form. | 13If the theoretical probability of rolling a " 3 " on a die is $1 / 6$, predict how many times the outcome will be " 3 " if you roll the die 12 times. | 14 <br> List the possible outcomes in each case: <br> - Flipping a Coin <br> - Rolling a Six-Sided Die <br> - Rolling a 12-Sided Die | 15 <br> Write the opposite of the following integers: $-7,+31,-22,+3,0$ | 16 <br> Joleen says, "The probability of spinning green is $3 / 4$." <br> Ahn says, "The probability is 75\%." <br> Who is right? Explain. |
| 19 <br> Find the missing value that would make the following statement true: $\frac{\square}{3}+\frac{1}{2}=\frac{5}{6}$ | 20 Write each decimal as a percent. <br> a) 0.37 <br> b) 1.36 <br> c) 0.4732 | 21 <br> Use a tree diagram to show the possible combinations when flipping a penny and a nickel. | $22$ <br> Solve: $\begin{aligned} & 10 \times 0.8 \\ & 10 \div 0.8 \end{aligned}$ | 23Add the following fractions and represent them in the lowest terms. <br> a) $2 / 5+4 / 5$ <br> b) $3 / 3+1 / 8+2 / 6$ <br> c) $1 / 3+6 / 9$ |
| 26 <br> Find or imagine the shape of a kleenex box. How many faces, edges, and vertices does it have? What if you had 3 kleenex boxes, how many faces, edges and vertices would you have altogether then? | 27 <br> Which pairs of fractions are equivalent? $\begin{aligned} & 1 / 3, \quad 9 / 24, \quad 1 / 2,9 / 27 \\ & 14 / 28, \quad 2 / 5, \quad 18 / 45, \quad 3 / 8 \end{aligned}$ | 28 <br> How many different outcomes are there for the following spinner? | 29 <br> Input Output <br> 2 5 <br> 4 9 <br> 6 13 <br> 8 17 | 30For the previous table <br> a)Describe the pattern in the Output Column <br> b) Describe how you can find the output number when given the input number <br> c) Determine the output value when the input value is " 16 " |

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## April - Grade 7 Math

2
(Use the figure on April 24)

Sketch the net of the following Hexagonal Right Prism.

9
Express the following in millilitres.
a) 22 L
b) 0.6 L
c) 1.25 L

16 Write each percent as a decimal.
a) 45
b) $73 \%$
c) $97 \%$

23A right prism is a prism whose rectangular faces are perpendicular to its congruent base. Identify the rectangular faces on each prism and try to find 2 real life examples of each:

3
Use an integer to represent each statement.

- seven degrees Celsius below zero
- a loss of eleven points
- five seconds after liftoff
- seventeen steps down
- a profit of twenty-nine dollars


## 10

Use a tree diagram to show
the possible combinations when rolling two 6 -sided die.

17
I have five different coins in my pocket. What is the probability of picking any one coin out of my

24
Hexagonal Right Prism:


4
There is a probability of $15 \%$ chance of rain in today's forecast. Should I carry an umbrella or wear a coat? What if there was a $90 \%$ chance of rain? Explain how you made your decision.

11
Solve:
$8 \times 3 / 4$
$8 \div 3 / 4$

18Multiply the following
fractions and represent them in the lowest terms
a) $1 / 2$ of 18
b) $1 / 9$ of 54
c) $3 / 7$ of 28

5
Record the probability for precipitation over the next week, then record how often the outcome of 'precipitation' occurred. What do you notice?

13
Demonstrate, using a sketch or concrete materials the following repeated addition of a fraction.

$$
1 / 2+1 / 2+1 / 2
$$

## 20

Determine the surface of a rectangular prism measuring 10 cm in length, 5 cm in width, and 20 cm in height.

6
Draw a diagram to show each fraction as part of a whole.
a) $1 / 5$
b) $3 / 8$
c) $4 / 9$
d) $2 / 4$
2/4

6
r

25


12
Solve:
$16 \times 0.5$
$16 \div 0.5$

19
Which is greater,
$(3 / 4+2 / 3)$ or $(5 / 8+3 / 4) ?$
Write each in decimal form.

27

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## May - Grade 7 Math

## 30

Find the missing value that would make the following statement true:
$\frac{1}{8}+\frac{\square}{2}=\frac{5}{8}$
7
Solve:
$26 \times 0.5$
$26 \div 0.5$

1
What fraction of the letters in your first name are vowels? What fraction of the letters in your first name are consonants?

8
Make a list of items found in your kitchen that use fractions (hint, look in some cook books)

14There is a probability of
$10 \%$ chance of snow in today's forecast. Should I wear my boots? What if there was an $80 \%$ chance of snow? Explain how you made your decision. 21
When multiplying and dividing integers, and one is positive and one
is negative, what will the result/answer always be?

## 28

How many different outcomes are there for the following spinner?

15
Order the following from greatest to least:
$1 / 2,1 / 4,5 / 8,2 / 3,7 / 8$

## 22

Order the following from greatest to least:
$1 / 2,1 / 43 / 4 / 8^{2 / 3} 33 / 8^{7 / 8}$

29Subtractthe following fractions and represent them in the lowest terms.
a) 7/11-2/11
b) $8 / 9-1 / 3$
c) $9 / 10-2 / 4$

2Represent the following repeated addition by a multiplication of a fraction.
a) $1 / 2+1 / 2+1 / 2+1 / 2$
b) $2 / 3+2 / 3+2 / 3$

9
Use a tree diagram to show the possible combinations when rolling a 6 -sided die and flipping a coin.

> 16
> Solve:
> $8 \times 7 / 8$
> $8 \div 7 / 8$

## 23Describe how the

 relationship between the number of faces of a prism and the angles between the faces of a prism (e.g., does increasing the number of faces increase or decrease the angles between the faces?)30 If I took my Kleenex box and slid it across my desk, would this be considered a translation, a reflection, or a rotation?

3 When multiplying and dividing integers, and the signs are either both positive or both negative, what will the result/answer always be?

10
Find two fractions that have a sum of 2.

## 17

Are all outcomes of rolling a
6 -sided die lablelled 1 to 6 equally likely? Explain?

24 The temperature at noon was $7^{\circ} \mathrm{C}$. Over the next 7 hours, the temperature rose $2^{\circ}$, rose $4^{\circ} \mathrm{C}$, dropped $1^{\circ}$, and then dropped $3^{\circ} \mathrm{C}$. What was the temperature at 17:00?

4 Multiply the following
fractions and represent them in the lowest terms.
a) $1 / 3 \times 2 / 6$
b) $25 \times 3 / 5$
c) $4 / 6 \times 3 / 4$

11
Sally ate $1 / 2$ of the pizza on Friday night, and $1 / 6$ of the pizza Saturday morning. How much pizza is left?

18Divide the following fractions.
a) $4 \div 2 / 8$
b) $5 \div 15 / 1$
c) $3 \div 9 / 3$

## 25

How would you write the following as a multiplication sentence? $1 / 2+1 / 2+1 / 2+1 / 2+1 / 2+1 / 2$ ?

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## June - Grade 7 Math

ThreeDay Question: The following statistics were available prior to playoffs of the local PeeWee hockey league. Team 'Generals' are at 16 wins and 4 losses, Team 'Huskies' are at 7 wins, 4 ties, and 9 losses Team 'Wolverines' are at 8 wins, 5 ties, and 7 losses, and Team 'Skaters' are at 15 wins, 2 ties, and 2 losses.

4
What is the difference between theoretical probability and experimental probability?

## 11

What are the coordinates
of the origin on the
Cartesian Plane?
Why is this the case?

18 Write two enuivalent fractions for the following:


25 Georgie's batting average is .200 . This means that she has gotten a hit $20 \%$ of the times she has been at bat.
a) What is the probability of Georgie getting a hit next atbat?
b) What is the probability of Georgie not getting a hit on her next at-bat?

5
What is the difference between frequency and relative frequency?

## 12

When a lottery states the chances of winning, are they using theoretical probability or experimental probability?

## 19

Sketch a right prism that has a height of 3 cm and a base that is $2 \mathrm{~cm} \times 4 \mathrm{~cm}$.

26 Su Li charges $\$ 14$ to shovel one driveway. She earned $\$ 112$ in February.
a) Model this situation using an equation.
b) Solve your equation to find out how many driveways Su Li shovels in February.
a) Which team is most likely to win theplayoffs if they continue to play like they did during the season. Explain your reasoning.

6
Order the following from least to greatest:
$3 / 8,1 / 4,5 / 8,2,1 / 2,7 / 8$

13 Kim spent 12 hours at her
friends, out of that time $1 / 2$ was spent outside, $1 / 3$ was spent watching TV, the remainder of time was spent napping. How long (in hours) was her nap?
b)Which team is most likely to give them a tough competition?
c) Which team is least likely to give them a tough competition?

7
How would you write the following as an addition sentence?
$1 / 2 \times 4$

1
If a shirt costs $\$ 25$, how much will two shirts cost me? What if I were buying 6 shirts? Show your answer using an algebraic equation.

8
Draw a diagram to show how
$1 / 2 \times 4$ and
$4 \times 1 / 2$ are different.

15
Solve each equation. Verify your solution.
a) $x+4.9=20$
b) $5.7=b+3.7$

22
Think about the Cartesian
Plane and its four quadrants
(I,II, III, IV).
Which Quadrant will each of the following sets of points be located in?
a) $(+2,+7)$
b) $(-3,+8)$
c) $(+7,-6)$

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