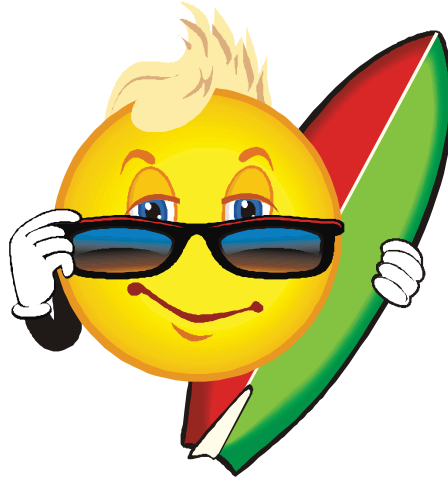Name: _____Elementary School: _____

Rising Math 7 Honors Students

Summer Packet

SHOW ALL WORK on a separate sheet of paper. The answers are enclosed for you to review your work.

The list of websites below contains tutorials, practice, and quizzes on these topics and more.

http://www.regentsprep.org
http://www.math.com
http://library.thinkquest.org
http://www.mathgoodies.com/lessons.toc-vol.shtm
http://education.jlab.org/solquiz/
https://www.khanacademy.org/

Part 1

Evaluate each expression for the given values of the variables.
https://www.youtube.com/watch?v=dAgfnK528RA
https://www.youtube.com/watch?v=AJNDeVt9UOo

1. What is the value of $a^2(b+c)$ when $a = 2, b = 5,$ and $c = 4$?
2. Simplify $-4(a-b)+a^2$ when $a = 5$ and $b = -9$?
3. What is the value of 5a + 3b when a = 4 and b = 3?

Simplify.

4. Simplify: $0.6(4-3^2) \div \dfrac{1}{4^2}$

5. Simplify: $5-(6\times9) \div \dfrac{7}{3}$

6. Simplify: $5(2^4+4) \div 5^2$

Part 2
https://www.youtube.com/watch?v=bXkewQ7WEdI
https://www.youtube.com/watch?v=96ZEmUbnuU8
https://www.youtube.com/watch?v=-Xt4UDk7Kzw
https://www.youtube.com/watch?v=i1i2_9wg6N8

Express each number either in standard from or in scientific notation.

7. Write the standard decimal notation for 5.06×10^6.
8. Write the standard decimal notation for 8.069×10^{-5}.
9. Write the standard decimal notation for 1.002×10^{-3}.
10. Write the scientific notation for .008569.
11. Write the standard notion for 10,569,000.

 Solve the following problems using proportions. Show all your steps.

12. Alex and Sam are taking a trip. They measured the distance they will travel on a map. The distance was 4.25 inches. The scale on the map is 1 inch to 50 miles. How many miles will they travel?

13. Jackie is reviewing a blue print for her new house. The scale for the blueprint is 1 in. to 8 ft. Her bedroom is 2.25 in by 1.5 in. on the blueprint. What are the actual dimensions of the blueprint?

14. Kailyn is making lemonade. The directions call for 2 scoops of lemonade mix for every 8 cups of water. How much lemonade mix should she use for 20 cups of water?

15. What is a correct representation of $\frac{1}{8}$ as a decimal and as a percent?

16. Convert $\frac{1}{3}$ to a decimal and percent.

17. Order these numbers from least to greatest.

   .4, 35%, 2.3, $\sqrt{3}$

18. Graph $-\sqrt{9}$ on the number line.

-7 –6 –5 –4 –3 –2 –1 0 1 2 3 4 5 6 7 8
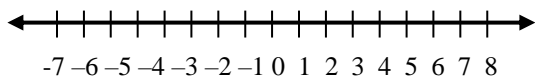
19. Graph $\sqrt{5}$ on the number line.

-7 –6 –5 –4 –3 –2 –1 0 1 2 3 4 5 6 7 8
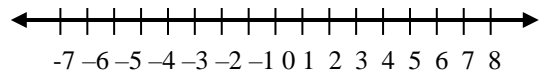
Part 3 Answer the following, show all your work.
https://www.youtube.com/watch?v=jb_RwR_Eso4

20. Kelly went to lunch. The bill was $10.75. She left a 15% tip. What was the total cost of lunch?

21. Mrs. Martin purchased a computer that was originally priced at $1,500. It was on sale for 15% off. The sales tax is 7.5%. What is the sales tax on the computer?

22. What was the total cost of the computer from the question above?

23. If I go to a restaurant and want to order a salad, main course and dessert, how many possible outcomes are there, if there are 6 different salads, 8 different main courses and 4 different desserts?

24. Marin collected data regarding the ages of people at a recent movie. Use a histogram to display Marin's data.

$$\{8,45,12,16,19,25,36,48,28,24,36,19,15,17,25,36,24,27,16,30\}$$

25. Find the mean of the following set of numbers?

$$\{31,35,42,38,50,43,36\}$$

26. Find the median, mode, and range of the following set of numbers?

$$\{85,79,95,98,82,80,92,99\}$$

27. Make a stem-and-leaf plot to display the data set.

$$\{125,135,103,102,156,135,142,152,113,116,125,124,114,137,144,106\}$$

Part 5

Solve each equation and check your solution

28. $5x+6=31$ 29. $-45+6x=-57$ 30. $2a + 3 = 7$

Solve each inequality and graph on a number line.
31. $3x - 4 < 8$ 32. $-2x > 6$

Part 6

33. What is the approximate volume of the cylinder? Let π =3.14.
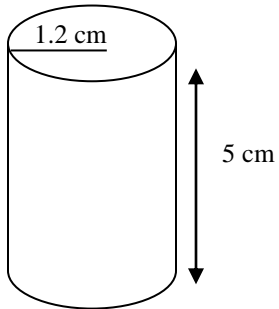
1.2 cm

5 cm

$$V = \pi r^2 h$$
$$S.A. = 2\pi rh + 2\pi r^2$$

34. What is the surface are of the prism?

1 cm

2.7 cm

6 cm

$$V = lwh$$
$$S.A. = 2lw + 2lh + 2wh$$
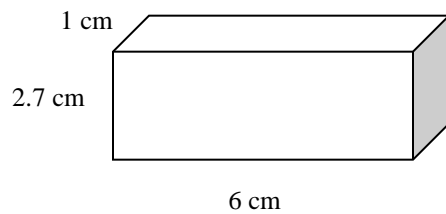
Part 7 *Graph each equation on a separate sheet of graph paper.*

35.

$$y = -\frac{1}{2}x + 3$$

x	y
-4	
-2	
0	
2	
4	
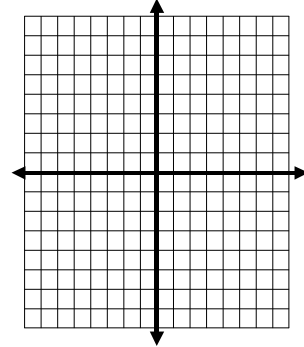
36. $y = 4x - 3$

x	y
-2	
-1	
0	
1	
2	
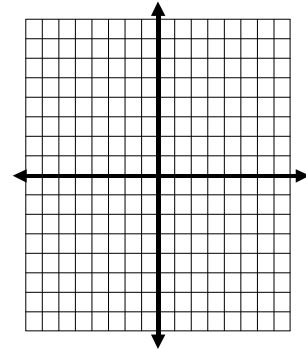
Graph the following ordered pairs.

37.

x	y
-2	-1
-1	1
0	3
1	5
2	7
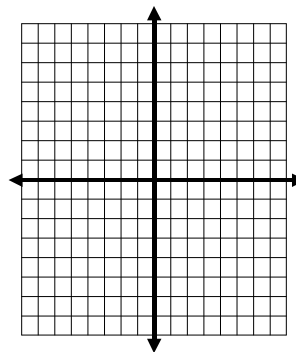
38.

x	y
-2	5
0	1
1	-1
3	-5
4	-7
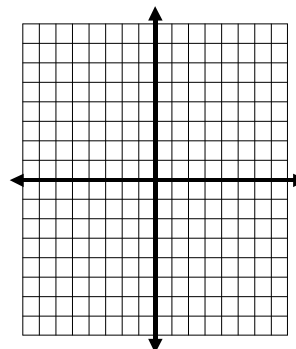
Part 8

39. There are 8 cashew, 15 peanuts, 7 almonds, and 5 pecans in a bag. One nut is chosen at random from the bag. What is the probability that it is a pecan?

40. In the figure below, what are the percent, the fraction, and the decimal representations for the area **NOT** shaded?
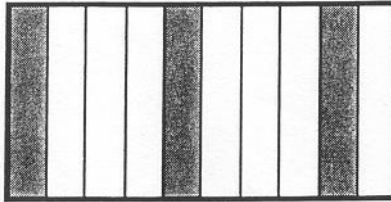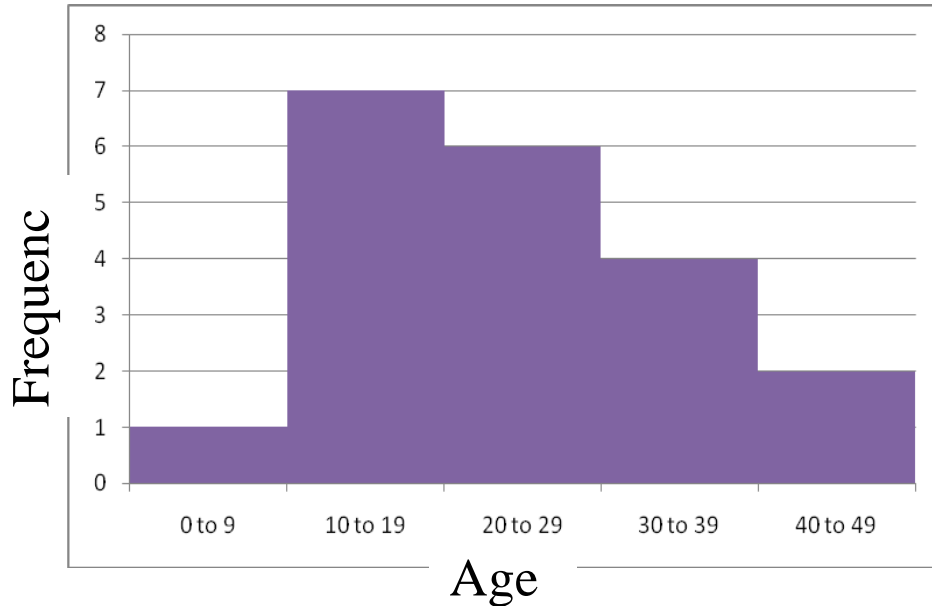
Math 7 Honors Summer Packet (answers)

Part 1

1) 36

2) –31

3) 29

4) –48

5) $\dfrac{-127}{7}$

6) 4

Part 2

7) 5,060,000

8) 0.00008069

9) 0.001002

10) 8.569×10^{-3}

11) 1.0569×10^{7}

12) 212.5 miles

13) 18 feet by 12 feet

14) 5 scoops

15) 0.125 and 12.5%

16) $\dfrac{1}{3} = 0.\overline{3} = 33\dfrac{1}{3}\%$

17) 35%, .4, $\sqrt{3}$, 2.3,

18)

19)
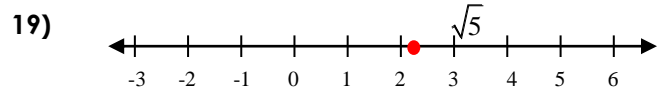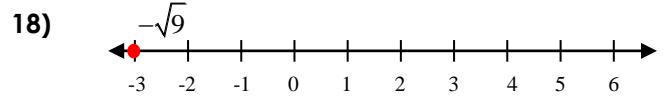
Part 3

20) **$12.36**

21) **$95.63**

22) **$1370.63**

23) **192 choices**

Part 4

24)   **Ages of People at a Recent Movie**

25) **Approximately 39.29**

26) **Median = 88.5**

   Mode = no mode

   Range = 20

27)

10	2 3 6
11	3 4 6
12	4 5 5
13	5 5 7
14	2 4
15	2 6

Part 5

28) x = 5

29) x = -2

30) a= 2

31) x < 4
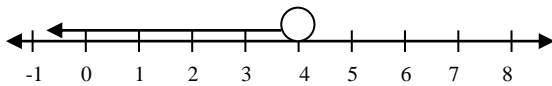
32) x < -3
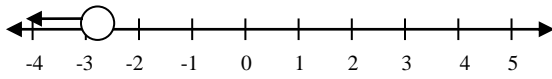
Part 6

33) V = 22.608 cm³

34) S. A. = 59.8 cm²

35) $y = -\dfrac{1}{2}x + 3$
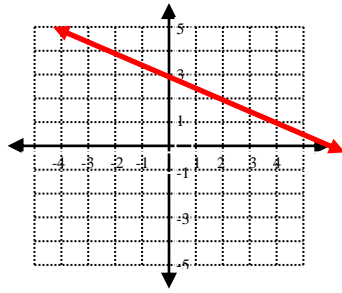
36) $y = 4x - 3$

37)
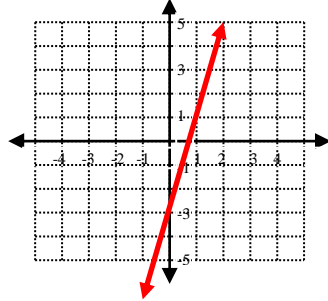
x	y
-2	-1
-1	1
0	3
1	5
2	7
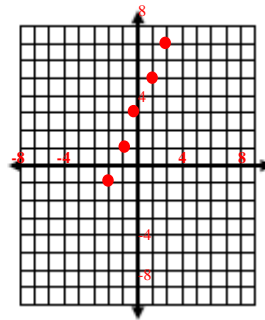
38)

x	y
-2	5
0	1
1	-1
3	-5
4	-7

39) 1/7
40) 70%, 7/10, 0.7