

**Shelton Intermediate School**  
**Summer Review Packet**  
**For all students entering**  
**8<sup>th</sup> Grade Pre-Algebra**

Name: \_\_\_\_\_

Dates worked on: \_\_\_\_\_

## **Summer Work Directions:**

### **Required-**

- 1) All students are required to complete each of the following exercises in the **summer work packet** using the skills you learned in previous classes. To receive full credit for this assignment, you must show your work and complete ALL of the problems in this packet. You may use a calculator to help with calculations, but you must still show all of your work.
- 2) All students are required to complete **at least 10 IXL strands** from the recommended list. All IXL strands can be found under **Grade 7**.

The completed packet and IXL log is due the second day of class. Each part will count as a grade in math class. For assistance in completing individual problems, you should refer to your notes from previous classes, use online resources or work with your peers.

### **Incentives -**

Students have the opportunity to earn tickets to win a TI-84 Plus Graphing Calculator or gift cards to stores/restaurants in the area by completing **more than** 10 IXL strands from the packet. For each additional 20 minutes spent, you will receive one raffle ticket. The more you practice the greater your chances are of winning!

## IXL Activity Log

<u>Skill</u>	<u>Date</u>	<u>SmartScore</u>	<u>Time Spent</u>
<u>1</u>			
<u>2</u>			
<u>3</u>			
<u>4</u>			
<u>5</u>			
<u>6</u>			
<u>7</u>			
<u>8</u>			
<u>9</u>			
<u>10</u>			
<u>11</u>			
<u>12</u>			
<u>13</u>			
<u>14</u>			
<u>15</u>			
<u>16</u>			

## Ratios and Proportional Relationships

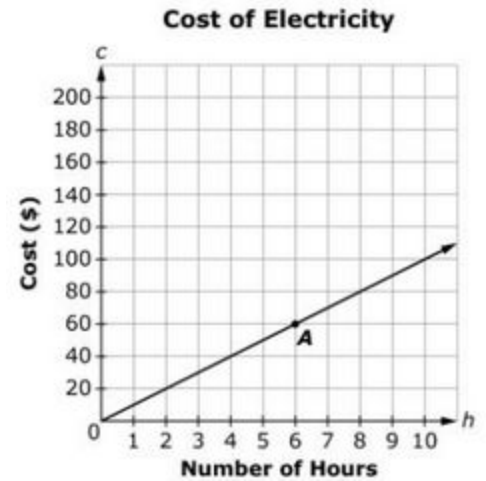
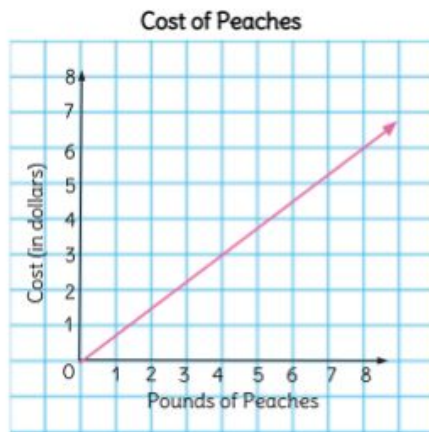
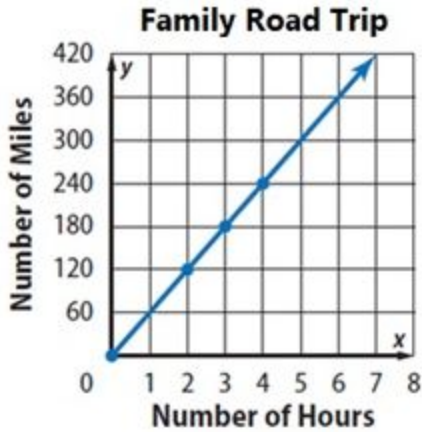
**Rate of Change (Recommended IXL Strands: J.13 and J.14)**

Find the rate of change for each scenario, don't forget units.

1.

2.

3.



**Unit Rate (Recommended IXL Strands: J.5)**

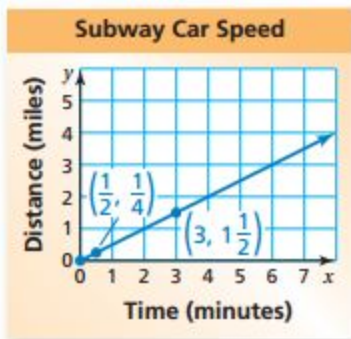
Find the unit rate.

4. \$4.80 for 6 cans of soda

5.  $21\frac{3}{4}$  meters in  $2\frac{1}{2}$  hours

6. Find the unit rate from the graph below.

7. Find the unit rate of servings per package.



<b>Packages</b>	3	6	9	12
<b>Servings</b>	13.5	27	40.5	54

## The Number System

**Computation with Integers (Recommended IXL Strands: C.3 and C.7)**

Evaluate.

8.  $-5 + (-4)$

9.  $6 - 18$

10.  $-12 + 19$

11.  $7 - (-10)$

12.  $-4 - 6$

13.  $25 + (-13)$

14. Your bank account has a balance of \$ -50. You deposit \$31. What is your new balance?

15.  $\frac{-15}{3}$

16.  $(-4)(9)$

17.  $-24 \div -8$

18.  $-12 \times 7$

19.  $(-5)(-11)$

20.  $\frac{-42}{-3}$

21. The temperature decreased 3 degrees per hour from 9pm to 2am. Write and evaluate an expression to represent the overall change in temperature.

**Computation with Fractions (Recommended IXL Strands: R.3 and R.6)**

22.  $\frac{2}{3} - (-\frac{2}{5})$

23.  $\frac{7}{10} + -\frac{2}{5}$

24.  $3\frac{1}{2} - 2\frac{5}{9}$

25.  $1\frac{5}{12} + 3\frac{1}{2}$

26.  $\frac{3}{5} \cdot \frac{2}{3}$

27.  $1\frac{3}{8} \cdot \frac{3}{4}$

28.  $8 \div \frac{1}{4}$

29.  $\frac{3}{7} \div \frac{5}{9}$

30. Jen bought  $1\frac{1}{2}$  pounds of candy at the candy store. If Ryan bought  $\frac{1}{2}$  as much candy as Jen, how many pounds of candy did Ryan purchase?

31. As part of a lesson on earthquakes, a science class is researching the movement of a nearby fault line. The fault line moved  $4\frac{7}{12}$  inches during the past year and  $3\frac{7}{12}$  inches the year before. How far did the fault line move in all?

## **Expressions and Equations**

### ***Simplify Expressions (Recommended IXL Strands: R.13 and R.14)***

Simplify each expression.

32.  $12x + 7 + 8x$

33.  $2n - 4 + 7n$

34.  $3x - 2 + 7 - 5x$

35.  $8 + 4a + 6.2 - 9a$

### ***Distributive Property (Recommended IXL Strands: R.10)***

Simplify each expression.

36.  $2(x + 2)$

37.  $6(x - 5)$

38.  $4(b - 6) + 19$

39.  $2x - 3(x + 6)$

### ***Write Equations (Recommended IXL Strands: S.2)***

Write the word sentence as an equation.

40. 6 less than a number  $n$  is -12.    41. Five more than the product of -3 and a number  $q$  is 15

Write and solve an equation to represent each real-world scenario.

43. The cost of three ice cream cones is \$24.95. If each ice cream cone cost the same amount, what was the price,  $p$ , of one ice cream cone?

44. It costs \$2.50 to rent bowling shoes. Each game costs \$2.25. You have \$9.25. How many games,  $g$ , can you bowl?

**Solve Equations (Recommended IXL Strands: S.5, S.6, S.7 and S.8)**

Solve the equation. Check your solution.

45.  $x + \frac{5}{9} = \frac{1}{6}$

46.  $-2\frac{1}{4} = r - \frac{4}{5}$

47.  $8 = -\frac{2}{5}c$

48.  $\frac{n}{1.6} = -5$

49.  $4 + 2.2h = -3.7$

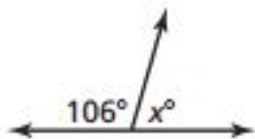
50.  $-\frac{9}{4}v + \frac{4}{5} = \frac{7}{8}$

**Geometry**

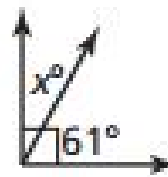
**Angles (Recommended IXL Strands: W.6 and W.7)**

Tell whether the angles are supplementary, complementary or vertical. Then find the value of x.

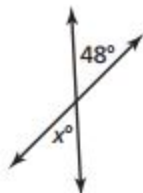
51.



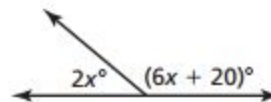
52.



53.



54.



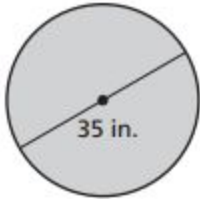
**Area and Circumference of Circles (Recommended IXL Strands: AA.5 and AA.6)**

Find the area and circumference of each circle. Use 3.14 for  $\pi$ .

55. Circle with a radius = 4 cm

56. Circle with a diameter of 15 m

57.



## **Statistics and Probability**

### ***Dependent and Independent Events (Recommended IXL Strands: DD.6 and DD.7)***

Identify if each event is independent or dependent.

58. You randomly draw a lane for the 100 meter race. Then your friend randomly draws a lane for the same race.

59. You roll a 4 on a number cube. Then you roll an even number on a different number cube.

Find the probability.

60. A bag holds six chips numbered 1 - 6. Without replacing the first chip, you choose a second chip. Find the probability.

### ***Compound Events (Recommended IXL Strands: DD.5)***

You spin the spinner and flip a coin. Find the probability of the compound event.

61. Spinning a 3 and flipping heads

62. Not spinning 2 and flipping tails

