**Algebra 1 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Review Packet #1 for Final Exam Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period \_\_\_\_\_**

**Show ALL of your work! Be neat and organized!!**

1. A few summers ago, Ms. Baird and her family hiked Mt. Rainier, just outside Seattle, Washington. Mt. Rainier is one of the largest active strato-volcanos in North America and has an elevation of 14,411 feet. When her dad and brother went scuba diving at Sombrero Reef this summer, they descended to a depth of 45 feet below sea level. What is their total change in elevation?

To what family (or families) of numbers do the following problems belong? Types - Rational, Irrational, Integer, Whole & Natural numbers.

2.  3.  4.  5. 

*Find each sum or difference.*

6.  7.  8. 

*Find each quotient or product.*

9.  10.  11. 

12. 45 is what percent of 150?

13. What number is 15% of 70?

14. 90 is 40% of what number?

15. Bobby needs to get 81% of the questions right on his final exam to keep his A in the class. If there are 55 questions on the final exam, how many does he need to answer correctly?



16. Which answer choice would be a solution to change 185 minutes to hours?

1. 
2. 
3. 
4. 

17. How many ouncesare in 4.25 kilograms? (1 kg. = 2.2 lbs.)

18. The Eiffel Tower in Paris is 324 meters tall. What is its height in feet? (1 m = 3.28 ft.)

19. Recently it was reported that one dollar equals 6.2 Chinese yuan. If your weekly salary is $2,592, how much is that in Chinese yuan?

**Use this for #20 and 21**. A food company processes yogurt in 1 cup cartons. The machine that fills the 1 cup cartons with yogurt runs 9 hours a day for 5 days a week. It fills 1408 cartons an hour.

20. How many gallons of yogurt are needed to fill 1408 cartons? **Show your work below!**

A. 31 gallons B. 88 gallons C. 176 gallons D. 352 gallons

21. How many cartons are filled in two weeks?

22. The Miro family is taking a family trip to Pennsylvania and has 370 mi left before they get to the hotel. If they are traveling at a rate of 31 miles per gallon and they have 12 gallons of fuel left should Mr. Miro stop for gas? Show your calculations and explain why or why not in a complete sentence.

23. A room is 24 feet by 9 feet. The carpet selected for installation in the room costs $24 dollars per square yard. What is the cost of the carpet for that room?

A serving of apple juice “a” has 58 calories, orange juice “j” has 45 calories, and grapefruit juice “g” has 32 calories.

24. Write an expression that represents the total number of calories in **a** servings of apple juice, **j** servings of orange juice, and **g** servings of grapefruit juice.

25. How many terms are in your expression?

26. What does the coefficient of the term with the variable “j” represent?

27. What does the term with the variable **a** represent?

A chocolatier wants to create an 8 pound blend of milk chocolate and dark chocolate chips. The dark chocolate chips sell for 4 dollars a pound and the milk chocolate chips sells for 3.20 dollars a pound. She wants to sell the mixture for $6.09 per pound. She uses this equation:

$$4x+3.20\left(8-x\right)=6.09(8)$$

28. What does x represent in the equation?

29. What does the term $3.2(8-x)$represent?

30. What does the term $6.09(8)$ represent?

Simplify the radicals:

31) $\sqrt{25}$ 32) $\sqrt{16x^{4}y^{5}}$ 33) $\sqrt{20x^{3}y^{6}}$

34) $2\sqrt{10}-\sqrt{10}+3\sqrt{10}$ 35) $\sqrt{25}+ \sqrt{49}$ 36) $\sqrt{2}-2\sqrt{49}+5\sqrt{8}$

37) $3\sqrt{2}∙2\sqrt{10}$ 38) $\sqrt{5x}∙\sqrt{2x}$ 39) $\sqrt{6} (\sqrt{5}-3)$

40. The length of a rectangle is 4 inches less than four times its width. The perimeter is 42 inches. Write an equation that can be used to find the length and width of the rectangle.

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|   | Given |
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1. Fill in the properties for the equation:
2. Jerry’s income Y consists of at least $37,500 plus a 5% commission on all of his sales, x. Which inequality represents Jerry’s income for 1 year?
3. $y \leq 37,500+5x$ B. $y \geq x+ .05 (37,500)$

C.$ y\geq 37,500+ .05x$ D. $y \geq 37,500+5x$

1. To eliminate the variable x in the system of equations  you would multiply

the second equation by what number?

Solve. Show ALL work. Graph on a number line.

44. $\frac{2}{3} x+3 \geq 2$ 45. – 3 < - 3x – 2 46. $2n \geq 4n+12$