Unit 4: Review

In problems 1 – 4, define the variable, and then write the expression algebraically.

1. "the sum of the score and 13"	2. "four times the difference of the height and 79"
3. "22 decreased by 8 times the amount of rainfall"	4. "the product of the volume and 4π"

In problems 5 - 7, define the variable, set up the equation, and then solve for the variable.

5. Five less than one-third the population is 11.

6. Four times the sum of a number and 5 gives a value of sixty.

7. Twice the number of zebras increased by four times the number of zebras is exactly 72.

8. The lengths of the bases of a trapezoid are 3x + 1 and 2x + 1. The other two sides are both x. What is the length of the longest base if the perimeter of the trapezoid is 72?

9. The length of a rectangle is 3 more than the width. What are the dimensions of the rectangle if its perimeter is 23?

10. A triangle's base is 8 and its height is 2 less than its area. What is its height?

11. What is the length of a rectangle if its width is 12 and its area is 120?

12. What is the rate of commission on the sale of a house if a real estate agent makes $12,000 on a house that sold for $240,000?

13. 25 is what percent of 78?	14. 38% of what is 175?
15. 4.11% of 160 is what?	16. Convert 1.02% to a decimal fraction.

17. If the area of a quarter circle is 46π, what is its radius?

18. Solve for *x* from 3x + 2y = 29.

19. Solve for *a* from 4(3a + 9b) = 11.

20. In the equation y = mx + b, *m* is the slope of a line and *b* is the y-intercept. Solve for the y-intercept.

21. Solve for *p* from 3q + 8p = 4(11 + p)