Name _____ Date _____ Class_____

Cumulative Test 13B

1. *(47)* A clothing store is having a sale of 30% off all dresses. What is the discount and new price of a dress that originally cost $90?

2. *(61)* Simplify $\sqrt{18}$ using perfect squares.

Find the product for problems 3–4.

3. *(60)* $(x + 4)(x - 4)$

4. *(58)* $-4mn(m^2 - 3mn^2 + 2mnx)$

5. *(18)* Simplify the expression $7ab^2 + 2a^2b - 2ab^2 - 5a^2b$.

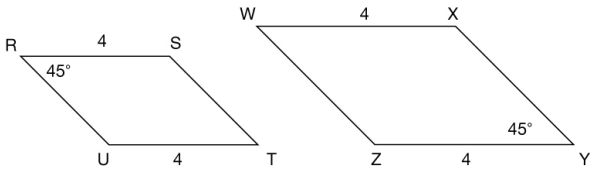
6. *(49)* The equation $y = x + 2$ is in slope-intercept form. Graph $y = x + 2$ on a coordinate grid.

7. *(46)* A gift box in the shape of a cube has a volume of 216 cubic inches. What is the side length of the gift box?

8. *(45)* Translate the sentence below into an inequality.

   557 is greater than or equal to 3500 divided by a number.

9. *(36)* The figures below are similar. Find $m\angle W$.



10. *(65)* Write an equation in slope-intercept form for the line that passes through (–3, 1) and is parallel to $y = 2x - 4$.

11. *(62)* Some children are at a summer camp. The heights of the children in inches are shown below. Create a stem-and-leaf plot of the data.

    50, 48, 36, 38, 45, 62, 52, 54, 48, 62, 48
    45, 47, 39, 44, 62, 65, 56, 53, 52, 42, 60,
    39, 54, 59, 45, 60, 49, 60, 61

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12. *(59)* Solve the systems of equations by substitution.

$2x + y = 0$

$3x + 4y = 10$

13. *(63)* Solve the system of equations by elimination.

$-4x + 3y = 10$

$4x + 5y = 38$

14. *(52)* Write in point-slope form the equation of a line that has a slope of 3 and passes through point (3, –3).

15. *(43)* Determine the values for which the rational expression $\frac{3y + 2}{y + 3}$ is undefined.

16. *(57)* Gloria goes to the gym every 6 days. Liz goes to the gym every 4 days. Nate goes to the gym every 8 days. If all three go to the gym on the same day, in how many days will they all go to the gym on the same day again?

17. *(64)* If y varies inversely as x and $y = 8$ when $x = 12$, find x when $y = 6$.

18. *(48)* The following data show scores for a football team. Identify any outliers. What is the effect of any outliers on measures of central tendency?

17, 6, 12, 14, 9, 67, 13, 17, 27

19. *(38)* Factor $-4x^2y^4 + -4x^3y^3$ completely.

20. *(56)* Write an equation for a direct variation that includes the point (2, –6).

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