2C Translating English to Math

SHOW YOUR WORK ONLY IN PENCIL. NO WORK NO CREDIT.

1. Fill in the table for words **that could mean the same thing** as the following. Be prepared to justify your answers.

Difference	Decreased	Quotient	Of
Twice	Totals	Product	And
Increase	2 more than	Sum	Quantity
Split	Share	Results	Same As
Is the same as	Groups of	Is	
Minus	Evenly in parts	Less than	

+	(−)	×	÷	=

Write AND <u>solve an equation</u> for each problem. You can draw an arrow from the phase that matches your equation. You must show your work! Then **CHECK YOUR WORK!**

2. Eight more than some number is the same as twelve.

3. Twice a number totals 16 minus that number.

4. The difference between seven and some number is 65.

5. The sum of 18 and some number is the same as the product of four and that number.

6. A number decreased by eight totals twelve.

7. Six less than the product of 3 and a number, is added to 2 with a result of 20. What is the number?

Simplify the following roots to the **lowest integer radicand.**

8. $\sqrt{56}$ 9. $\sqrt{108}$ 10. $\sqrt{40}$ 11. $\sqrt{32}$

Solve the following absolute value equations

12. $|x + 5| = 14$

15. $\frac{|x+8|}{9} = 4$

13. $\left|\frac{x}{9}\right| = 2$

16. $-4\left|\frac{x}{5}\right| = -8$

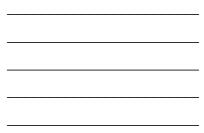14. $8\left|\frac{b}{10}\right| = 8$

17. $|x - 9| + 5 = 19$

Solve for the given variable and **explain each of your steps.**

18. $3x + 9 = 44 - 2x$ <u>GIVEN (What you know)</u>

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19. $5x - 7 = 7x - \underline{17}$ <u>GIVEN</u>

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20. $8x - (3x + 2) = 1$ GIVEN

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21. $4(x - 5) = 4$

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Solve each equation and then **CHECK YOUR ANSWERS.**

22. $-138 = -6(6b - 7)$ ✓

24. $-3 - 6(4x + 6) = -111$ ✓

23. $-4(y + 2) = 28 + 2y$ ✓

25. $-4(6n - 2) = 128$ ✓