Unit 2: Expressions and Equations Study Guide

Evaluating Expressions

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| 1. $9x-3+x^{2}, when x=4^{}$
 | 2. $-2n÷3+(4n-n), when n=6$ |
| 3. The expression 1.8c + 32 can be used to convert a temperature in degrees Celsius, C, to degrees Fahrenheit, F. If the temperature is 40° C, what is the temperature in degrees Fahrenheit?  |

Combining Like Terms

Use circles, squares , triangles, lines or colored highlighters to group like terms.

Simplify:

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| 4. $5h-2hm+12-7h+2hm+h$ | 6. $$$(x^{2}+8x-1)+(x^{2}-9x-2)$ |
| 5. –0.5(*x* – 8) – (0.1*x* + 1) | 7. 8*z* – 23*q* – 12*z* – 3*q* |

Distributive Property

Simplify:

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| 8. $$$3(2x-6)$ | 12. $8y-4(-2y+4)$ |
| 9. $1.5(x+4)$ | 13. $\frac{1}{2}(8x-2) -(x+14)\_{}$ |
| 10. $$$-\frac{1}{3}(6x-27)$ | 14. $k(3n-14)$ |
| 11. Find the area: $1\frac{1}{2}$ | 15. Find the Perimeter:  x+1 |

Solving Equations

**Steps to solving a two-step equation:**

1. **Do the inverse operation for addition or subtraction.**
2. **Do the inverse operation for multiplication or division.**
3. **Check your answer**

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| 16. 4x-8=16 | 22. $\frac{y}{12}-5=11$ |
| 17. 3.2x+2.6=-23 | 23. $-6.85+\frac{m}{4}=-11$ |
| 18. 0.7t-3.2=1.7 | 24. 10-5m=45 |
| 19. $-5.6=\frac{h}{5}+12.2$ | 25. -3x-10=-46 |
| 20. $\frac{3}{2}x+\frac{1}{5}=\frac{3}{4}$ | 26. $\frac{3}{7}+\frac{1}{4}y=\frac{1}{2}$ |
| 21. $\frac{1}{2}(4-k)=\frac{2}{5}$ | 27. –3 = 5*x* + 2 |

Word Problems

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| 28. The sum of three consecutive even numbers is 48. What are the smallest of these numbers? | 30. How old am I if 400 reduced by 2 times my age is 244? |
| 29. Aliyah had $24 to spend on seven pencils. After buying them she had $10. How much did each pencil cost? | 31. Imani spent half of her weekly allowance playing mini-golf. To earn more money her parents let her wash the car for $4. What is her weekly allowance if she ended with $12? |
| 32. Alex rents a car for one day. The charge is $18 plus $0.12 per mile. Alex wants to spend exactly $30. How many miles can he drive? | 33. Nick opens a savings account with $50. Each week after, he deposits $15. In how many weeks will he have saved $500? |