

Solving Algebraic Equations Review

1. Solve each of the following equations – Show all your work!! [KU]

a. $2r = 30$

b. $15 = -4 - 1r$

c. $\frac{m}{3} = 5$

d. $21 = -7f$

e. $3n + 1.5 = 10.5$

f. $\frac{d}{4} + 3 = 5$

g. $g - 1 = 5g - 8 + 3g$

h. $4(2n - 3) + 5 = 49$

Solve and CHECK your solution

i. $\frac{-a}{3} - 5 = 15$

j. $a + 5 = -5a - 31$

Simplify the following expressions by collecting like terms. [KU]

a. $10x - 6y + 5x$

b. $16a + 9 - 7a$

c. $a + 2 - 8a$

d. $2x - 6y + 7x + 2y - 3$

e. $6s^2 - 3x^2 + 4t - 6s^2$

f. $8a^2 + 4ab + 6a - 8a^2$

COMMUNICATION:

1. Create a word problem that can be modelled by an algebraic equation, then create the equation. You DO NOT NEED TO SOLVE IT. Ask me if you need help.

2. Be able to define the following terms and provide examples:

Coefficient, Like Terms, Constant, Variable, Expression, Equation

Application word problems from your quizzes

Remember to show all your work, with proper format! (Let and therefore statements and the EQUATION!)

1. Bobby buys 50 pounds of fish. If there are 24 fish, how much does each fish weigh (assume they all weigh the same)?
 2. Jenny goes and buys fish at the pet store. She also buys her aquarium for \$132. Her total bill was \$186 at the pet store. How much money did the fish cost?
 3. John has a book with 334 pages he needs to read in 4 weeks. He's already read 34 pages, how many pages would he need to read each week?
 4. Brooklyn went out and bought 5 chargers. She had coupons that gave her \$1 off each charger. If the bill was \$14 with the discount included, how much was each charger?
 5. If you buy 4 busses and spend \$100 000, how much did you pay for each bus?
 6. Destiney is in charge of purchases for graduation. She bought 20 bags of chips for \$2 each and some pop. Her bill came to \$48. How much did the pop cost her?
 7. You have \$500 in your bank account and you withdraw \$25 each week.
 - a) When will you be down to \$200?
 - b) When will you have no money left in your account?
 8. Sadie has \$60 to go to the fair. If each ride costs \$8 and she wants to go on 10 rides, will she have enough money?
 9. Joe and his 4 brothers buy 5 lift tickets. They all get a \$5 discount because their dad is the manager at the mountain. The total bill came to \$105, how much was each ticket?
 10. Mrs. Peden is repairing her fence. She needs 40 pieces of wood. She has a coupon for \$25 off. She ends up spending \$425. How much does each piece of wood cost?
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11. A monkey is going out to buy 100 bananas. While at the store he also buys 3 bags of sour patch kids for \$2 each. If the total cost was \$96, how much did each banana cost?
 12. Victoria wants to get 50 flowers for her mother. She only has \$5 at the moment but each week she receives \$5 allowance. If flowers cost \$1.25 each, in how many weeks will she be able to buy 50 flowers?
 13. Mya wants to buy 16 items at a store that cost the same amount. After her \$10 employee discount, her bill came to \$74. How much was each item?
 14. Ella works at a dog kennel in the summer. They charge a flat rate of \$5 plus \$12 per hour the dog stays. A golden retriever came to the kennel for a day and the owner was charged \$89. How long did he stay for?
 15. Alex is buying new skis for the school ski club. He bought 20 skis and received a \$500 discount. His bill was \$12000, so how much did each pair of skis cost?
 16. Mary wants to rent a cab to go 30 miles. Company ABC has a flat rate of \$12 and charges \$1.05 per mile. Company XYZ has a flat rate of \$18 but only costs 75 cents per mile.
 - a) Which company should she take?
 - b) What if she spent \$64.50, how many miles did she travel?