

Fifth Grade Assessment I

Fifth Grade Assessment I

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Summary	This assessment will focus on writing equations to solve verbal problems and on solving equations using syntactic rules. It is intended as a diagnostic tool to assist teachers in planning future activities.
Goals	1. To assess children's development in the area of representing problems algebraically and using the syntactic rules of algebra for solving equations.
Materials	Assessment Handouts
Keywords	Assessment Balancing Equations Contextualized Situations Interpretation of Algebraic Expressions Interpretation of Equations Interpretation of Stories Linear Functions Production of Algebraic Expressions Production of Equations Representing Variables Solving Equations

Handout: Assessment I**(Page 1)**

Name: _____ Date: _____

1. Diana had some baseball cards in the morning. Her friend Jason then gave her 7 cards. Because she was a good student, her father tripled the number of cards she had. At the end of the day she counted all her cards and found that she had 90 cards in total.

Show how many cards Diana had in the morning.	
Represent how many cards Diana had after Jason gave her 7 cards.	
Represent how many cards Diana had after her father tripled the number of cards she had.	
Write an equation that shows that Diana ended up with 90 cards.	

How many cards did Diana have at the beginning of the day? Show how you found your answer.

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Name: _____ Date: _____

2. Sean and Tara each have a water tank with fish. Sean has 20 blue fish and some red fish. Tara only has red fish; she has three times as many red fish as Sean. Overall, Sean has the same number of fish as Tara.

Represent Sean's fish	
Represent Tara's fish	
Write an equation that shows Sean and Tara having the same amount of fish	

How many red fish does Sean have? Show how you found your answer.

How many fish does Tara have? Show how you found your answer.

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3. Find the value of n for each of the following equations. Show how you did it:

$$4 + n = 7$$

$$2n = 10$$

$$3n = 12$$

$$n + 8 = 3n$$

$$2n + 2 + y = 8 + y$$

$$n + 8 = n + n + n$$

$$5n + y + 10 = n + y + 90$$

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4. Which one of the following equations is equivalent to $3n + 4 = 2n$.

(a) $3 + n + 4 = 2 + n$

(b) $2n + 4 = 3n$

(c) $n + n + n + 4 = n + n$

(d) None of the above

Explain why:

5. Write an equation that is equivalent to $3n + 4 = 2n$.Explain why your equation is equivalent to $3n + 4 = 2n$.

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6. Which one of the following equations is equivalent to $5n + y + 10 = n + y + 90$.

(a) $4n + n + 10 = 90$

(b) $5 + y + 10 = y + 90$

(c) $4n + y = y + 80$

(d) None of the above

Explain why:

7. Write an equation that is the same as $5n + y + 10 = n + y + 90$.

Explain why your equation is equivalent to $5n + y + 10 = n + y + 90$.