

# Properties of Equality

1. If  $16 + 4 = 20$ , does  $16 + 4 - 4 = 20 - 4$ ? Why or why not?

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2. If  $2d \div 4 = 5$ , does  $2d \div 4 + 6 = 5 + 4$ ? Why or why not?

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3. If  $12 - 8 = 4$ , does  $(12 - 8) \div 2 = 4 \times 2$ ? Explain.

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4. If  $7t = 70$ , does  $12 \times 7t = 12 \times 70$ ? Explain.

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5. **Critical Thinking** Emil and Jade have equal amounts of play money in two piles. Emil has \$1 and a quarter in his pile. Jade has 5 quarters in her pile. If Emil gives Jade \$1 and Jade gives Emil 4 quarters, will the two piles still be equal in value? Explain.

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6. Which equation shows the Multiplication Property of Equality if  $n + 4 = 11$ ?

**A**  $(n + 4) \times 2 = 11$

**B**  $(n + 4) \times 2 = 11 \div 2$

**C**  $(n + 4) \times 2 = 11 \times 4$

**D**  $(n + 4) \times 2 = 11 \times 2$

7. **Writing to Explain** Bobbie wrote  $y + 6 = 15$ . Then she wrote  $(y + 6) \div 3 = 15$ . Explain why the second equation is not balanced and how to balance it.

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