Teacher Notes.

Lesson 25: Finding Solutions to Make Equations True

Classwork

Opening Exercise

Identify a value for the variable that would make each equation or inequality into a true number sentence. Is this the only possible answer? State when the equation or inequality is true using equality and inequality symbols.

a. $3 + g = 15$ $g = 12$

$3 + 12 = 15$ The equation is true when $g = 12$.

b. $30 > 2d$ The inequality is true when $d < 15$

$30 > 2(14)$

$30 > 28$

c. $\frac{15}{f} < 5$ The inequality is true when $f > 3$.

$\frac{15}{5}$

$3 < 5$

d. $42 \leq 50 - m$ The inequality is true when $m \leq 8$

$42 \leq 50 - 7$

Example

Each of the following numbers, if substituted for the variable, makes one of the equations below into a true number sentence. Match the number to that equation: 3, 6, 15, 16, 44.

a. $n + 26 = 32$ $n = 6$

$6 + 26 = 32$

b. $n - 12 = 32$ $n = 44$

$44 - 12 = 32$

c. $17n = 51$ $n = 3$

$17(3) = 51$

$51 = 51$

d. $4^2 = n$ $n = 16$

$4^2 = 16$

e. $\frac{n}{3} = 5$ $n = 15$

$\frac{15}{3} = 5$