Great MathWorksheets

Grade 5 – Lesson 21

Math Practice Sheets

Solving Equations

Examples

Practice Questions

Extra Challenge Unit

Student Name

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Unit 21.1 Equations and their Properties

Example

Equation: An equation is a number sentence that uses an equal sign to show that two expressions have the same value.

Properties of equations: In any equation,

a) Equal quantities can be added to both sides.
Example: If 6 = 6, then $6 + 2 = 6 + 2$ i.e. 8 = 8 (true)

b) Equal quantities can be subtracted from both sides.
Example: If 6 = 6, then $6 - 2 = 6 - 2$ i.e. 4 = 4 (true)

c) Both sides can be multiplied by an equal quantity.
Example: If 6 = 6, then $6 \times 2 = 6 \times 2$ i.e. 12 = 12 (true)

d) Both sides can be divided by an equal quantity.
Example: If 6 = 6, then $\frac{6}{2} = \frac{6}{2}$ i.e. 3 = 3 (true)

Exercise

1. Answer each question. Explain why or why not.

Q.N.	Given the equation	Does
a)	$x - 6 = 7$	$(x - 6) + 4 = 7 - 4$ No. Because in the left side 4 is added and in the right side 4 is subtracted.
b)	$3 \times y = 18$	$(3 \times y) + 5 = 18 + 5$
c)	$5m + 1 = 75$	$(5m + 1) \times 8 = 75 + 8$
d)	$20 - r = 0$	$(20 - r) - 4 = 0 - 4$
e)	$a \times 12 = 132$	$(a \times 12) \div 6 = 132 \times 6$
f)	$80 + k = 99$	$(80 + k) - 36 = 99 - 36$