

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Properties of Real Numbers Exit Quiz

Name the property of real numbers used in each equation. Then find the value of  $x$ .

1.  $8x = 5 \cdot 8$

2.  $\frac{2}{5} \cdot x = 1$

3.  $3 + (2 + 8) = 6 + x$

Evaluate each expression if  $x = 4$ ,  $y = 3$  and  $z = 6$ . (Name the property used in each step.)

4.  $6x + 2(2x + 7)$

5.  $\frac{x}{y} + \frac{2}{x}(z + 2y) + z$

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**ANSWER**Name the property of real numbers used in each equation. Then find the value of  $x$ .

- |                              |                   |  |
|------------------------------|-------------------|--|
| 1. $8x = 5 \cdot 8$          | $x = 5$           | Commutative property of multiplication |
| 2. $\frac{2}{5} \cdot x = 1$ | $x = \frac{5}{2}$ | Multiplicative inverse property        |
| 3. $3 + (2 + 8) = 6 + x$     | $x = 8$           | Associative property of addition       |

Evaluate each expression if  $x = 4$ ,  $y = 3$  and  $z = 6$ . (Name the property used in each step.)

4.  $6x + 2(2x + 7)$
- |                        |              |
|------------------------|--------------|
| $= 6(4) + 2(2(4) + 7)$ | Substitution |
| $= 24 + 2(8 + 7)$      | Multiply     |
| $= 24 + 2(15)$         | Add          |
| $= 24 + 30$            | Multiply     |
| $= 54$                 | Add          |
- 
5.  $\frac{x}{y} + \frac{2}{x}(z + 2y) + z$
- |  |                                   |
|--|-----------------------------------|
| $= \frac{4}{3} + \frac{2}{4}(6 + 2(3)) + 6$      | Substitution                      |
| $= \frac{4}{3} + \frac{2}{2 \cdot 2}(6 + 6) + 6$ | Multiply & Symmetric              |
| $= \frac{4}{3} + \frac{1}{2}(12) + 6$            | Addition & multiplicative inverse |
| $= \frac{4}{3} + \frac{1}{2}(6 \cdot 2) + 6$     | Symmetric                         |
| $= \frac{4}{3} + 6 + 6$                          | multiplicative inverse            |
| $= \frac{4}{3} + 12$                             | Add                               |
| $= \frac{4}{3} + \frac{36}{3}$                   | LCD                               |
| $= \frac{40}{3}$                                 | Add                               |