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| Reflexive Property | For all real numbers A number equals itself | These three Properties define an equivalence relation |
| Reflexive Property | For all real numbers ,If Order of equality does not matter |
| Transitive Property | For all real numbers ,If If and y=z then x=zTwo numbers equal to the same number are equal to each other |
| Addition Property | For all real numbers If , then  | These properties allow you to balance and solve equations involving real numbersFor more, see the section on the distributive property |
| Subtraction Property | For all real numbers If , then  |
| Multiplication Property | For all real numbers If , then  |
| Division Property | For all real numbers If , and , then  |
| Substitution Property | For all real numbers If , then can be substituted for in any expression |
| Distributive Property | For all real numbers  |

Questions:

* 1. Solve the following equation for x

2x + 6 = 3x + 9

6 – 9 = 3x – 2x

x = –3

* 1. Solve the following equation for x

4(2x + 6) = 2(–4x – 10)

8x + 24 = –8x – 20

8x + 8x = –20 – 24

16x = –44

* 1. Solve the following equation for x

x + 4 = 6 × 10

x + 4 = 60

x = 60 – 4

x = 56

* 1. A restaurant charges $9.95 for a large pizza with two toppings, and $1.25 for each additional topping. John bought a pizza which cost him $13.7. Find the number of toppings.

9.95 + 1.25x = 13.7

1.25x = 13.7 – 9.95

1.25x = 3.75

x =

x = 3 toppings