

Math 172 – Section 1.5: Properties of Reals Exercises

State whether the following equations are true or false for all real numbers.

1. $-1(x - b) = b - x$ _____

2. $(3xy^2)^2 = 6x^2y^4$ _____

3. $(a - 2)^2 = a^2 - 4$ _____

4. $(a - 0)^2 = a^2 - 0^2$ _____

5. $2(x + 4) - 16 = 0$ _____

6. $y(xz - z^2) = z(xy - yz)$ _____

7. $m(m + n) = 2m + mn$ _____

8. $\frac{f + g}{g} = \frac{f}{g} + 1$ _____

9. $\frac{g}{f + g} = \frac{g}{f} + 1$ _____

10. $\frac{3u + v}{3v + w} = \frac{u}{w}$ _____

11. $\sqrt{p^2 + q^2} = p + q$ _____

12. $a \div \frac{5}{3} = a \times \frac{3}{5}$ _____

13. $4(x - 3y) = 4x - 3xy$ _____

14. $\frac{m - 6}{-3} = 2 - \frac{m}{3}$ _____

Solutions: The first, fourth, sixth, eighth, twelfth and fourteenth are true, the rest false.