**Equivalent equations**

1. Interchanging the two sides 2 = x  x = 2

2. Simplifying by combining like terms, eliminating parentheses, etc.

(x + 3) + 5 = 2x + (x + 4)

x + 8 = 3x + 4

3. Add or subtract on both sides. 3x – 5 = 4 x + 8 – x = 3x + 4 – x

3x – 5 + 5 = 4 + 5 8 = 2x + 4

8 – 4 = 2x + 4 – 4

4. Multiply or divide on both sides. 3x = 9 4 = 2x

3x/3 = 9/3 4/2 = 2x/2

x = 3 2 = x

5. Use the zero product property. x(x – 3)(2x + 1) = 0

x = 0 or x – 3 = 0 or 2x + 1 = 0

x = 0 or x = 3 or x = -0.5

Solve.

2x – 3 = 13 -3x + 1 = -16 -25 + 2x = 0

3 + 2n = 4n + 7 6 – 2m = 3m + 1 7 – (2x – 1) = 10

 

x(2x – 3) = (2x + 1)(x – 4) 

Use the formula F = 9/5C + 32 to make the following conversions.

98.6°F = \_\_\_\_\_°C -20°C = \_\_\_\_\_°F

Martha has $15,000 to invest in two funds. If the amount she puts into bonds is half of what she invests into stocks, how much is invested in each type of fund?

Frank is paid an hourly wage for up to 40 hours of work in a typical week, and he earns “time-and-a-half” for any overtime hours. If he earns $455 for a certain week in which he worked 48 hours, what is his regular salary rate (per hour)?