3.3 More Linear Equations: ax + b = dx + c

Steps for Solving Equations with Variables on Both Sides:

Steps

1. _____

2. _____ like terms

3. Move the _____ to one side

4. Undo _____ and _____

5. Undo _____ and _____

6. _____ your answer

Examples:

a) 3y + 18 = 7y − 6

b) 6y + 2.5 = 7y – 3.6

c) 5 − 3(2x + 1) = 4(x − 5) + 6

d) −2(y + 5) − 4 = 6(y − 2) + 2

e) $\frac{1}{3}x+\frac{1}{6}=\frac{2}{5}x-\frac{7}{10}$

f) $\frac{2x}{3}+\frac{x}{3}=-\frac{3}{4}+\frac{x}{2}$

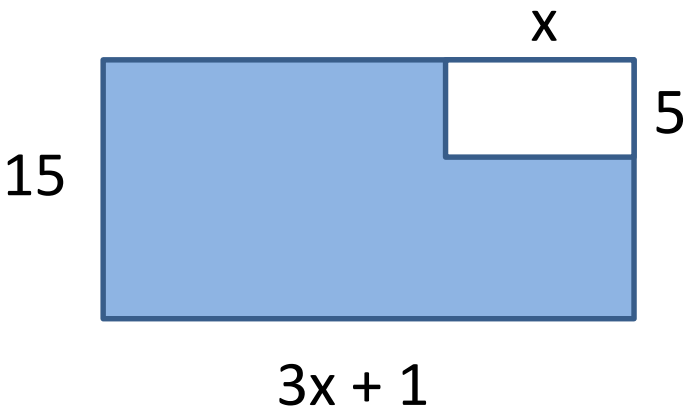
g) $\frac{3}{8}\left(y-\frac{1}{2}\right)=\frac{1}{8}\left(y+\frac{1}{2}\right)$

h) $\frac{1}{2}(y+1)=\frac{1}{3}(y-1)$

i) A sail is in the shape of a triangle. Find the height of the sail if its base is 20 ft and its area is 300 ft^2.

j) The lengths of the bases of a trapezoid are 10 in. and 15 in. Find the height if the area is 225 in^2.

k) Find the value of x in the figure if the area of the shaded portion is 95 $inches^2$.



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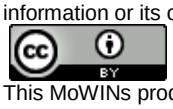

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