

Assignment - Day 3 Algebraic proofs

Name each property in the statements below.

1) a. If $2x - 7 = 28$, then $2x = 35$

b. If $15 = 3x$, then $3x = 15$

c. If $3(x + 4) = 2x$, then $3x + 12 = 2x$

d. If $4x - 5 = 3$, then $40x - 50 = 30$

e. If $y = 3x$ and $3x = y$, then $2x - 1 = x + 3$

f. If $4x = 12$, then $x = 3$

Using a 2 column proof, Complete the following proof.

2) Given $6x + 4 = 12x - 8$
 Prove $x = 2$

Statements

Reasons

a. $6x + 4 = 12x - 8$

a.

b. $6x - 5 - 6x = 12x + 1 - 6x$

b.

c.

c. Combine Like Terms

d.

d. Addition Property

e. $12 = 6x$

e.

f. $\frac{12}{6} = \frac{6x}{6}$

f.

g.

g.

Using a 2 column proof, Show all steps to Complete the following proof.

3) $x - 3 = -3x + 2x - 1$
Prove $x = 1$

4) $-x + 2 = 6 - 3x$
Prove $x = 2$

5) $-31 = -3(3b + 1) - 1$
Prove $x = 3$

6) $-3(3x - 1) - 2x = 36$
Prove $x = -3$

7) Blaire went trick-or-treating and got twice as many Snickers as she did Twix Bars and 14 more M&M's than Twix Bars. She has a total of 110 pieces of candy, how much of each kind did she get?

8) You have a variety of music on saved on your Spotify account. You have 58 more techno songs than rock song saved on your account. You also have 28 less Christmas songs than rock songs. You have a total of 465 songs, how many of each type of songs do you have saved on your Spotify account?