

Into to Proofs With Algebra Notes

Given: $4(x+y)=48$; $y=6$

Prove: $x=6$

Given: $2(4-x)-5x=78$

Prove: $x=-10$

Given: $5x-3=52$

Prove: $x=11$

Given: $-6(x-2)+4(3-6x)=-36$

Prove: $x=2$

Practice

2. Solve for n .

Given: $XY = 42$

$$XZ + ZY = XY \quad \text{a. } \underline{\quad ? \quad}$$

$$3(n + 4) + 3n = 42 \quad \text{b. } \underline{\quad ? \quad}$$

$$3n + 12 + 3n = 42 \quad \text{c. } \underline{\quad ? \quad}$$

$$6n + 12 = 42 \quad \text{d. } \underline{\quad ? \quad}$$

$$6n = 30 \quad \text{e. } \underline{\quad ? \quad}$$

$$n = 5 \quad \text{f. } \underline{\quad ? \quad}$$



4. $5(x + 3) = -4$ Given

$$5x + 15 = -4 \quad \text{a. } \underline{\quad ? \quad}$$

$$5x = -19 \quad \text{b. } \underline{\quad ? \quad}$$

$$x = -\frac{19}{5} \quad \text{c. } \underline{\quad ? \quad}$$

Name the property that justifies each statement.

5. $\angle Z \cong \angle Z$

6. $2(3x + 5) = 6x + 10$

7. If $12x = 84$, then $x = 7$.

8. If $\overline{ST} \cong \overline{QR}$, then $\overline{QR} \cong \overline{ST}$.

9. If $m\angle A = 15$, then $3m\angle A = 45$.

10. $XY = XY$

11. If $3x + 14 = 80$, then $3x = 66$.

12. If $KL = MN$, then $MN = KL$.

13. If $2x + y = 5$ and $x = y$,
then $2x + x = 5$.

14. If $AB - BC = 12$,
then $AB = 12 + BC$.

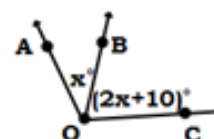
Given: $AC=21$
Prove: $y=6$



Steps

Justification

Given: $m\angle AOC=139^\circ$
Prove: $x=43$



Steps

Justification