

**Topic:** Transitive property

**Question:** What does the transitive property tell us about the set of equations?

$$y = 4x - 2$$

$$3z + 6 = y$$

**Answer choices:**

A  $4x - 2 = 3z + 6$

B  $4x - 2 = 3z$

C  $y = 4x$

D  $y = y$



**Solution: A**

We've been told that  $y = 4x - 2$ . If we turn this equation around (switch the left-hand side with the right-hand side), we get  $4x - 2 = y$ .

We've also been told that  $3z + 6 = y$ . If we turn this equation around, we get  $y = 3z + 6$ .

Now we have the following two equations:

$$4x - 2 = y$$

$$y = 3x + 6$$

Since  $4x - 2 = y$  and  $y = 3x + 6$ , the transitive property tells us that  $4x - 2 = 3z + 6$ .



**Topic:** Transitive property

**Question:** What does the transitive property tell us about the set of equations?

$$3x = 2y - 5$$

$$7z + 4 = 2y - 5$$

**Answer choices:**

A  $2y - 5 = 7z$

B  $4 = 2y - 5$

C  $3x = 7z + 4$

D  $3x = 4$



**Solution: C**

We've been told that  $7z + 4 = 2y - 5$ . If we take this equation and turn it around (switch the left-hand side with the right-hand side), we get  $2y - 5 = 7z + 4$ . Now we have the following:

$$3x = 2y - 5$$

$$2y - 5 = 7z + 4$$

Since  $3x = 2y - 5$  and  $2y - 5 = 7z + 4$ , the transitive property tells us that  $3x = 7z + 4$ .



**Topic:** Transitive property

**Question:** Using the transitive property, choose the equation that would be the correct conclusion for the pair of equations.

$$w = r$$

$$r = b$$

**Answer choices:**

A      $b = r$

B      $b = b$

C      $w = b$

D      $r = w$



**Solution: C**

The pattern for the transitive property of equality is

If  $a = b$  and  $b = c$ ,

then  $a = c$

Applying that to the given pair of equations gives:

If  $w = r$  and  $r = b$ ,

then  $w = b$

which is answer choice C.

