2. If $\frac{2x}{x^2+1} = \frac{2}{x+2}$, what is the value of x ?

(A) $-\frac{1}{4}$

(B) $\frac{1}{4}$

(C) $\frac{1}{2}$

(D) 0

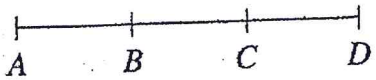
(E) 2

3. A survey of Town X found an average (arithmetic mean) of 3.2 persons per household and a mean of 1.2 televisions per household. If 48,000 people live in Town X, how many televisions are in Town X ?

(A) 15,000
(B) 16,000
(C) 18,000
(D) 40,000
(E) 57,600

6. If $9b = 81$, then $\sqrt{b} \times \sqrt[3]{3b} =$

(A) 9
(B) 27
(C) 81
(D) 243
(E) 729



Note: Figure not drawn to scale.

11. If $AB > CD$, which of the following must be true?

I. $AB > BC$
II. $AC > BD$
III. $AC > CD$

(A) I only
(B) II only
(C) III only
(D) II and III only
(E) I, II, and III

HON ALG 2 Bellwork 11-3-16 Answers

(2) $\frac{2x}{x^2+1} = \frac{2}{x+2}$ cross mult $\rightarrow$ $2x(x+2) = 2(x^2+1)$

$2x^2+4x = 2x^2+2$

$-2x^2 \quad -2x^2$

$4x = 2$

$x = 1/2$

C

---

(3) $3.2 \frac{\text{people}}{\text{house}}$ 1.2 TV/house

$$\frac{48{,}000 \text{ people}}{3.2 \text{ people/House}} = 15000 \text{ houses} \cdot 1.2 \text{ TV/House}$$

$$= 18{,}000 \text{ TV's}$$

C

---

(6) $9b = 81$

$b = 9$

$\sqrt{b} \times \sqrt[3]{3b}$

$\sqrt{9} \times \sqrt[3]{27}$

$3 \times 3 = 9$

A

Given $AB > CD$

(11) ✗ I $AB > BC$ don't know how long $\overline{BC}$ is

✓ II $AC > BD \rightarrow AB+BC > BC+CD$

this is the original statement then added the same amount to both sides

✓ III $AC > CD \rightarrow AB+BC > CD$

this is the original statement then added something just to the left side

D