

14. If $|x| \neq 0$, which of the following statements must be true?

- (A) x is positive.
- (B) $2x$ is positive.
- (C) $\frac{1}{x}$ is positive.
- (D) x^2 is positive.
- (E) x^3 is positive.

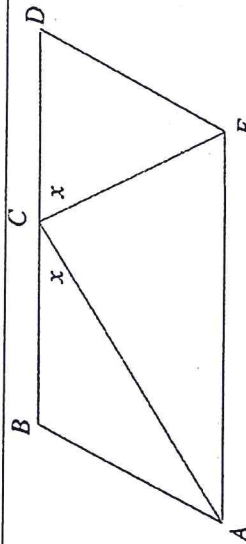
15. Rock climbing routes are rated on a numbered scale with the highest number representing the most difficult route. Sally tried a range of shoe sizes on each of several routes of varying difficulty and found that when she wore smaller shoes, she could climb routes of greater difficulty. If D represents the difficulty rating of a route Sally successfully climbed and s represents the size of the shoes she wore on such a route, then which of the following could express D as a function of s ?

- (A) $D(s) = s^2$
- (B) $D(s) = \sqrt{s}$
- (C) $D(s) = 4s$
- (D) $D(s) = s - 3.5$
- (E) $D(s) = \frac{45}{s}$

20. The value of the n th term of a sequence is given by the expression $a^{3n} - 3$. If the second term of the sequence is 61, which of the following could be the value of a ?

- I. -2
- II. 2
- III. 4

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



Note: Figure not drawn to scale.

18. In the figure above, $\overline{BD} \parallel \overline{AE}$. If the length of $\overline{CE}$ is 3, what is the length of $\overline{AC}$?

- (A) 3
- (B) 4
- (C) 5
- (D) $3\sqrt{3}$
- (E) It cannot be determined from the information given.

ALG 2 BELLWORK
WED. NOV. 11, 2015

BELLWORK ANSWERS

#14

D

x^2 is always positive

#15

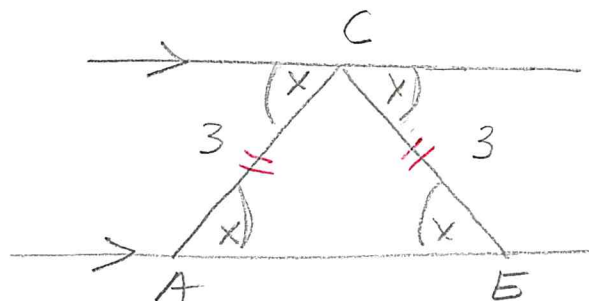
E

$$D(s) = \frac{45}{s}$$

This is the only function where D will increase as s decreases

#18

A



since alternate interior $\angle$ s are $\cong$ $\triangle ACE$ is isosceles where $\overline{AC} \cong \overline{EC}$

#20

D

$$n\text{th term} = a^{3n} - 3$$

$$2\text{nd term} \rightarrow n = 2$$

$$61 = a^{3 \cdot 2} - 3$$

$$61 = a^6 - 3$$

$$64 = a^6$$

since $(2)^6 = 64$ and $(-2)^6 = 64$ both 2 & -2 are possible