**ACT Cats Review #1**

**MA-HS-1.3.1: Students will solve real-world and mathematical problems to specified accuracy levels by simplifying expressions with real numbers involving addition, subtraction, multiplication, division, absolute value, integer exponents, roots (square, cube) and factorials.**

 1. The area of a square is 169 square centimeters. What is the length of one side of the square?

 A. 12

 B. 13

 C. 14

D. 15

2. What is the only number that **cannot** be substituted for *y* to make a true inequality?

 $\sqrt{1}>y>\sqrt{\frac{1}{16}}$

 A. $\frac{7}{8}$

 B. $\frac{3}{4}$

 C. $\frac{1}{3}$

 D. $\frac{1}{5}$

3. Arnoldo and Lissette live along the same road, 16 blocks apart. If they each go home in opposite directions after school, which set of numbers could represent the locations of their homes?

 A. 2, 16

 B. -2, 16

 C. -8, 8

 D. -16, 16

4. Is the set {even counting numbers} closed under addition?

5. It is about 6 billion kilometers from Earth to Pluto. Which of the following choices correctly represents the distance?

 A. 109 kilometers

 B. 6 $×10^{9}$ kilometers

 C. $10^{10}$ kilometers

 D. $6×10^{10}$ kilometers

 E. 610 kilometers

**ACT Cats Quiz #1**

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1. To the nearest whole number, what is the length of a side of square whose area is 160 m2?

 A. 12 m

 B. 12.6 m

 C. 13 m

D. 16 m

2. Which, of the following numbers, multiplied by itself 4 times, equals 2,401?

 F. 6

 G. 7

 H. 8

 J. 9

 K. 10

3. Which is another way of writing 0.37?

 A. 0.38

 B. 3.7

 C. $\frac{37}{100}$

D. $\frac{37}{99}$

4. Which of the following numbers can replace *x* to make a true inequality? $\sqrt{225}<x<\sqrt{289}$?

 A. 15

 B. 16

 C. 17

 D. 18

5. Write the numbers in order from least to greatest: 0.83, $\frac{4}{9}$, $\sqrt{\frac{4}{9}}$, 17%, $\frac{3}{\sqrt{9}}$