

# DIGITLE – SAT/ACT

## Puzzle 504 – Essential Algebra Skills

**Directions:** The first 5 problems have single digits answers. The 6<sup>th</sup> problem has a 5-digit answer (counting leading zeros if present). You have a choice: solve the easier single-digit answer problems or tackle the more difficult 5-digit answer. Once you have done that, attempt to solve the puzzle by entering the following url on your computer, tablet, or phone:

<https://mastermathmentor.com/mmm/digitle.ashx>.

The correct puzzle answer will be the digits of your answer(s) scrambled. Use the following interpretation. You get 6 tries.

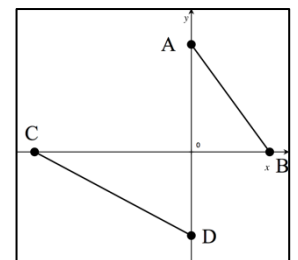


**Green :** the digit is in the answer and is in the correct spot.  
**Yellow:** the digit is in the answer but is not in the correct spot.

**Grey :** the digit is not in the answer.

### Single Digit Answers:

- 1) What is the positive solution to  $|3x^2 - 4| = 188$  ?
  
- 2) Find the value of  $-p^2 - 4pq + q^2 - 2q + \frac{1}{4}$  if  $p = \frac{1}{2}, q = -1$
  
- 3) A car travels 0.75 miles in 1.5 minutes. How far does the car travel in  $\frac{4}{15}$  of an hour?
  
- 4) The equation  $6(kx + 2) = 4(3x - 1)$  where  $k$  is a constant has no solution. What must be the value of  $k$ ?
  
- 5) Given the adjacent figure,  $AB = 15$  and  $CD = 25$ . Points B and C are  $(12, 0)$  and  $(-24, 0)$  respectively. Find the value of  $\sqrt{AD}$  .



### 5-Digit Answer:

- 6) If  $\frac{(6x-4)^3}{8}$  is expressed in the form  $ax^3 + bx^2 + cx + d$  , what is the value of  $\frac{abcd}{8}$  ?