

A white, scalloped-edged badge with a dark brown border, containing the text "ACT MATH" in a bold, dark brown, hand-drawn font. The background is a solid yellow color.

**ACT
MATH**

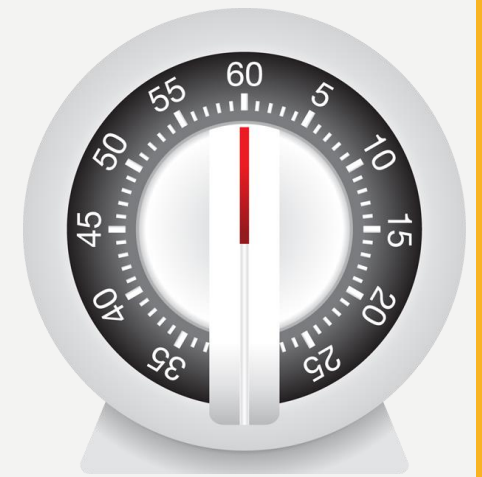
tIPS & tRICKS

SOME GENERAL INFO...

- 60 multiple choice questions in 60 minutes
- ACT claims the difficulty level increases throughout the test (easy → medium → hard)
- You do NOT lose points for incorrect answers, so never leave a question blank!
- Calculators are allowed

DON'T WASTE TIME!

- You need to average one question per minute!
- All questions are weighted equally, so give yourself enough time to attempt Every. Single. One.
- If you have no idea where to start, *star* that question and move on!
- Once you get to the end, use the extra time to go back and re-attempt the problems you starred. But **DON'T LEAVE AN ANSWER BLANK!**



MATH BY CATEGORY:

- There are six categories of math topics covered on the ACT and are typically covered by the end of grade 11.
 - Pre-Algebra & Elementary Algebra (24 questions)
 - Intermediate Algebra & Coordinate Geometry (18 questions)
 - Plane Geometry & Trigonometry (18 questions)

ACTIVE READING

- Make sure you pay close attention to the wording of each problem.
- Underline important pieces of information (key terms) and circle any numbers/equations that seem helpful.
- Example: What is the least common multiple of 70, 60, and 50?
 - a. 60
 - b. 180
 - c. 210
 - d. 2,100
 - e. 210,000

GET RID OF THE WRONG



- Eliminate obvious wrong answer(s):
 - Positive/Negative (Do you know the answer is positive?)
 - Type of number (Is the answer a fraction? Is it an integer?)
 - Larger/Smaller (Do you know the answer must be smaller than...?)
 - Different types of answers (Is there one answer that's completely different than the rest?)
- Repeat until you're left with the best possible answer.
- Example: For all x , $(x + 4)(x - 5) = ?$
 - $x^2 - 20$
 - $x^2 - x - 20$
 - $2x - 1$
 - $2x^2 - 1$
 - $2x^2 - x + 20$

LOOK FOR CLUES

- Pay attention to answers that look similar.
- Similar answers are clues... be careful and consider the differences between them!
- Example: There are 75 more women than men enrolled at a certain college. If there are n men enrolled, then in terms of n , what percent of those enrolled are men?

a. $\frac{n}{n+75} \%$

b. $\frac{100n}{n+75} \%$

c. $\frac{n}{2n+75} \%$

d. $\frac{100n}{2n+75} \%$

e. $\frac{n}{100(2n+75)} \%$

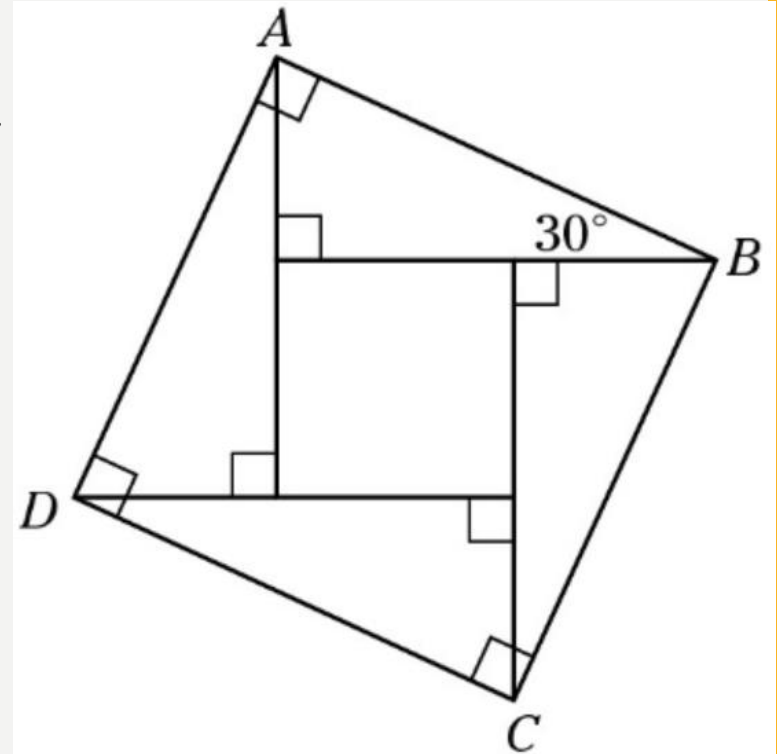


LOOK FOR CLUES CONT.



- Answer choices with $\sqrt{2}$, π , etc. mean you should NOT turn them into their decimal approximation while solving the problem.
- These answer types can also be a clue that you should consider special triangles and angles from geometry.
- Example: The drawing at the right shows four identical triangles surrounding a smaller square. Given that $AB = 10$, find the area of the square.

- $100 - 100\sqrt{3}$
- $100 - 50\sqrt{3}$
- 25
- $100 - 50\sqrt{2}$
- 50



PLUG IT IN, PLUG IT IN!

- If you get stuck... remember you have the answers right in front of you!
- All numerical answers are in ascending or descending order. Be strategic about which answer you choose to plug in first.
- Start with (C):
 - Too small → also eliminate two smaller numbers
 - Too large → also eliminate two larger numbers
- **The Exception:** If the question asks for the greatest or least possible answer, start with the largest or smallest answer choice.



PLUG IT IN, PLUG IT IN!

- Example:

Solve for x : $x^2 + 5 = 21$

- a. 1
- b. 2
- c. 3
- d. 4
- e. 5



PLUG IT IN, PLUG IT IN! CTD.

- Another form of “plugging in” is to choose numbers that are easy to work with within the problem.
- This can be especially useful for problems that involve percentages or a relationship that is true for a large set of numbers.
- This eliminates (or minimizes) symbolic algebra, which shortens the time it takes to solve.



PLUG IT IN, PLUG IT IN! CTD.

- Example:

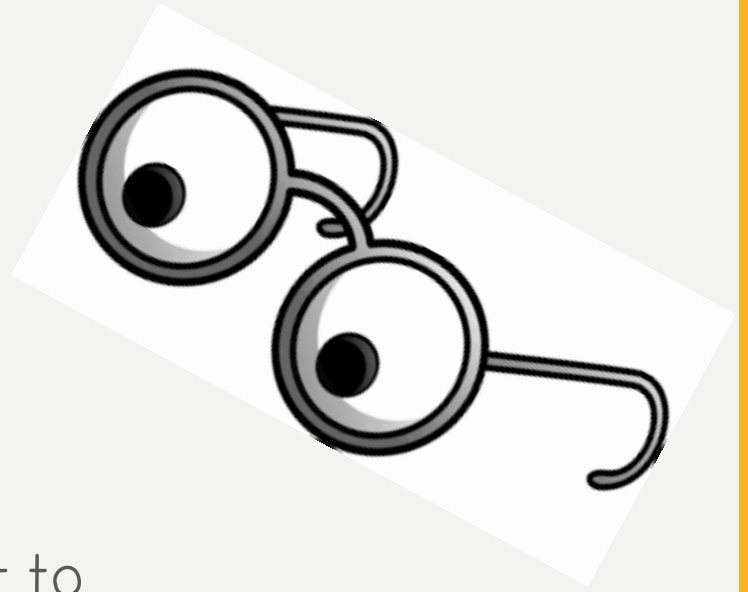
What is the average of 6 consecutive even integers if the greatest of the integers is n ?

- a. $n - 3$
- b. $n - 4.5$
- c. $n - 5$
- d. $n - 5.5$
- e. $n - 6$



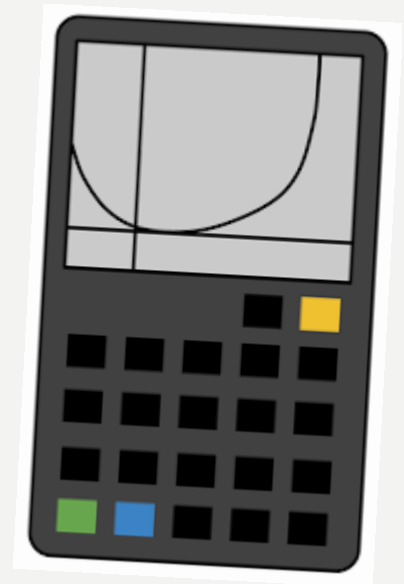
SEE IT... BELIEVE IT!

- If a figure does not explicitly state not drawn to scale, then it is drawn to scale!
- If a figure is not drawn to scale, then quickly redraw it to scale.
- If it is drawn to scale, your eyes may help you find the correct answer by estimation (or at least help you eliminate the choices that aren't valid)



USE YOUR CALCULATOR WISELY!

- Make sure you know how to use the calculator you bring to the test.
- Non-calculator strategy is often better than a calculator strategy.
- Make sure the numbers your calculator gives you are reasonable and make sense.



A PICTURE IS WORTH A THOUSAND WORDS!

- Refer to illustrations whenever they are provided.
- If no illustration is provided and one might be useful, draw your own! This can be especially helpful with word problems.
- Transfer information given in the question to the illustration.

QUESTIONS?

- We now are going to give you practice math ACT questions.
- Try to pace yourselves and use the strategies we've discussed.