



Present

SAT* Math

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SAT Math

- I. The Test Itself
- II. Arithmetic
- III. Algebra
- IV. Quantitative Comparison
- V. Geometry

The Order of Operations: PEMDAS

P: Parenthesis

E: Exponents

M: Multiplication

D: Division

A: Addition

S: Subtraction

Percentages

The percent increase or decrease equals the number increase or decrease divided by the original whole.

Fractions

1. To add or subtract fractions, find a common denominator.
2. To multiply fractions, just multiply straight across, numerators with numerators and denominators with denominators.
3. To divide by a fraction, just flip it over and multiply.

Square Roots

1. You can multiply or divide square roots.
2. You cannot (directly) add or subtract them.

Rules of Exponents

1. When multiplying exponents with a common base, ADD the exponents and keep the base.
2. When dividing exponents, subtract the exponents and keep the base.
3. You cannot (directly) add or subtract exponents.
4. 1 to any power still equals 1.
5. Any number to the 0 power equals 1.
6. Any number to the first power equals itself.

Algebra

Remember that in algebra, you can do what you whatever you want to an equation, as long as you do it to both sides—the left and the right.

Inequalities: When you multiply or divide by a negative number, the less than ($<$) or greater than ($>$) symbol flips.

For multiplying out binomials, remember the FOIL method: first, outside, inside, last.

Geometry

All of the drawings on the SAT, unless otherwise stated, are drawn to scale. Therefore, if something looks equal, it is equal. This holds true for all questions except the quantitative comparison problems.

Angles

1. A circle has 360 degrees.
2. A half circle has 180 degrees.
3. A straight line has 180 degrees.
4. The sum of the angles of any triangle equals 180 degrees.
5. The sum of the angles of any four-sided figure equals 360 degrees.
6. When two straight lines cross each other, they form vertical angles. Vertical angles are always equal.
7. A right angle is an angle that is 90 degrees. All the angles

of a rectangle are 90 degrees.

8. 'Bisect' means to divide something into two equal parts. You can bisect a line or an angle.

Triangles

1. An isosceles triangle is any triangle with two equal sides. The two angles opposite the two equal sides are equal.
2. An equilateral triangle has three equal sides. All angles equal 60 degrees.
3. If a triangle has three sides of varying lengths, then the longest side is across from the longest angle, and the smallest side is across from the smallest angle.
4. If you know two sides of a right triangle, you can find the length of the third side by using the Pythagorean theorem, $a^2 + b^2 = c^2$.

Circles

1. The circumference of a circle is the distance around the outside of the circle.
2. The formula for circumference of a circle is $2\pi r$. The area of a circle is the amount of space inside the circle.
4. The formula for the area of a circle is πr^2 .

Miscellaneous

1. To find the perimeter of any figure, simply add the lengths of the sides together.
2. The formula for the area of a rectangle is $l \times w$.
3. The formula for the area of a square is s^2 .
4. The formula for the area of a triangle is $1/2 bh$.
5. To find the volume of a rectangular box, multiply length times width times height, $l \times w \times h$.
6. To find the volume of a cylinder, multiply the area of the circular base times the height, or $\pi r^2 h$.