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| **Area of a Circle**  Body_circles.png | Area of a Circle  * π is a constant that can, for the purposes of the SAT, be written as 3.14 (or 3.14159) * *r* is the radius of the circle (any line drawn from the center point straight to the edge of the circle) |
| Circumference of a Circle C=2πr (or C=πd) | **Circumference of a Circle**   * is the diameter of the circle. It is a line that bisects the circle through the midpoint and touches two ends of the circle on opposite sides. It is twice the radius. |
| Area of a Rectangle Body_rectangle.png  A=lw | **Area of a Rectangle**  *A=lw*   * *l* is the length of the rectangle * *w* is the width of the rectangle |
| Area of a Triangle *Body_triangle_non-special.png* | Area of a Triangle  * b is the length of the base of triangle (the edge of one side) * h is the height of the triangle  In a right triangle, the height is the same as a side of the 90-degree angle. For non-right triangles, the height will drop down through the interior of the triangle, as shown above. |
| The Pythagorean Theorem body_pythag.png  a2+b2=c2 | The Pythagorean Theorem  * In a right triangle, the two smaller sides (*a* and *b*) are each squared. Their sum is the equal to the square of the hypotenuse (c, longest side of the triangle). |
| Properties of Special Right Triangle: 30, 60, 90 Degree Triangle  The side lengths are determined by the formula: x, x√3, and 2x The side opposite 30 degrees is the smallest, with a measurement of x. The side opposite 60 degrees is the middle length, with a measurement of x√3. The side opposite 90 degree is the hypotenuse (longest side), with a length of 2x. For example, a 30-60-90 triangle may have side lengths of 5, 5√3, and 10. | Properties of Special Right Triangle: 30, 60, 90 Degree Trianglebody_306090_triangle.png |
| Properties of Special Right Triangle: Isosceles Trianglebody_iso_triangle.png | Properties of Special Right Triangle: Isosceles Triangle  * An isosceles triangle has two sides that are equal in length and two equal angles opposite those sides. * An isosceles right triangle always has a 90-degree angle and two 45 degree angles.  The side lengths are determined by the formula: x, x, x√2, with the hypotenuse (side opposite 90 degrees) having a length of one of the smaller sides \*√2. |
| Volume of a Rectangular Solid *Body_rectangular_solid.png* | Volume of a Rectangular Solid  * *l* is the length of one of the sides. * *h* is the height of the figure. * *w* is the width of one of the sides. |
| Volume of a Cylinderbody_cylinder.png | Volume of a Cylinder  * r is the radius of the circular side of the cylinder. * h is the height of the cylinder |
| Volume of a Spherebody_volumesphere.png | Volume of a Sphere  * r is the radius of the sphere. |
| Volume of a Cone body_volumecone.png | Volume of a Cone  * r is the radius of the circular side of the cone. * h is the height of the pointed part of the cone (as measured from the center of the circular part of the cone). |
| Volume of a Pyramid body_volumepyramid.png | Volume of a Pyramid  * l is the length of one of the edges of the rectangular part of the pyramid. * h is the height of the figure at its peak (as measured from the center of the rectangular part of the pyramid). * w is the width of one of the edges of the rectangular part of the pyramid. |
| **Geometry Laws**  **Law # 1**  **Law # 2**  **Law # 3** | **Law #1: the number of degrees in a circle is 360**  **Law #2: the number of radians in a circle is 2π**  **Law #3: the number of degrees in a triangle is 180** |
| **Slope Formula** | **Slope** **Formula**   * Given two points, A(x1,y1),B(x2,y2), find the slope of the line that connects them:  |  | | --- | | (y2−y1) | | (x2−x1) |  * The slope of a line is the  |  | | --- | | rise(verticalchange) | | run(horizontalchange) | |
| **How to Write the Equation of a Line**  body_line_through_origin.png | **How to Write the Equation of a Line**   * y=mx+b **(If you get an equation that is NOT in this form (ex. mx−y=b), then re-write it into this format!)** * *m* is the slope of the line. * *b* is the y-intercept (the point where the line hits the y-axis). * If the line passes through the origin (0,0), the line is written as y=mx. |
| **Midpoint formula**  Given two points, A(x1,y1), B(x2,y2), find the midpoint of the line that connects them: | **Midpoint formula** |
| **Distance formula**   * + Given two points, A(x1,y1),B(x2,y2), find the distance between them: | **Distance formula** |
| **Length of an arc**   * Given a radius and a degree measure of an arc from the center, find the length of the arc * Use the formula for the circumference multiplied by the angle of the arc divided by the total angle measure of the circle (360) | **Length of an arc** |
| **Area of an arc sector**   * Given a radius and a degree measure of an arc from the center, find the area of the arc sector | **Area of an arc sector** |
| **Quadratic equation**   * Given a polynomial in the form of ax2+bx+c, solve for x. | **Quadratic equation** |
| Probability of an outcome | Probability of an outcome |
| **PERCENTAGES**   * Find x percent of a given number n. | **PERCENTAGES**  Find x percent of a given number n. |
| **PERCENTAGES**   * Find out what percent a number n is of another number m. | **PERCENTAGES**   * Find out what percent a number n is of another number m. |
| **PERCENTAGES**   * Find out what number n is x percent of. | **PERCENTAGES**   * Find out what number n is x percent of. |
| Trigonometry body_trig-1.png   * Find the sine of an angle given the measures of the sides of the triangle | Trigonometry Find the sine of an angle given the measures of the sides of the triangle.  sin(x)= Measure of the opposite side to the angle / Measure of the hypotenuse  In the figure above, the sine of the labeled angle would be a/h |
| Trigonometry  body_trig-1.png   * Find the cosine of an angle given the measures of the sides of the triangle. | Trigonometry  cos(x)= Measure of the adjacent side to the angle / Measure of the hypotenuse  In the figure above, the cosine of the labeled angle would be b/h |
| Trigonometry body_trig-1.png   * Find the tangent of an angle given the measures of the sides of the triangle. | Trigonometry tan(x)= Measure of the opposite side to the angle / Measure of the adjacent side to the angle  In the figure above, the tangent of the labeled angle would be a/b |
| Trigonometry SOHCAHTOA | Trigonometry  **S**ine equals **O**pposite over **H**ypotenuse  **C**osine equals **A**djacent over **H**ypotenuse  **T**angent equals **O**pposite over **A**djacent |
| Probabilitycalculate how likely it is that a white marble would be drawn from a jar that contains three white marbles and four black marbles, it's easy enough to realize you need to take this probability formula: | Probability |
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