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Area of composite figures calculator

A composite shape or composite shape is a form made of other shapes such as two rectangles (L-shape) or a triangle and a rectangle. If you are going to calculate the area of a composite form, you need to break up compound shape in these simpler forms. Once this is done, you can work out the area of these simpler forms and then add or deduct these areas to give you the area of the composite shape. Let's work through some examples of calculating the area of composite forms. Example 1Calculate the area of this composite form. This composite shape consists of a rectangle and triangle. Firstly work from the territory of the rectangle. The area of a rectangle can be found by multiplying the base length by the height: Area of rectangle = $6 \times 5 = 30 \text{ cm}^2$ Secondly, working from the area of the triangle. The area of a triangle can be found by multiplying the base by height and splitting the answer by 2. Now the base length of the triangle is not given, but it can be calculated by sblveing the 6 cm from the 14 cm to give 8 cm. So the area of the triangle is: Area of triangle = $(8 \times 5) \div 2 = 20 \text{ cm}^2$ So the total area of the composite form is $30 + 20 = 50 \text{ cm}^2$. Note: An alternative method is to use the formula for the area of a traenoid. Example 2A circular shaped garden of radius 15m contains a square concrete region of side length 4m . Works from the realm of the grass (shade green region). This composite shape consists of a circle and a square. First, work out the area of the square. You can find the area of the square by multiplying the base length by the height (both are 4m)Area of the square = $4 \times 4 = 16 \text{ m}^2$ Secondly, you can work out the area of the circle using the formula $A = \pi r^2$. The radius of the circle is given at the beginning of the question ($r = 15\text{m}$)Area of the circle = $\pi \times 15^2 = 706.9 \text{ m}^2$ So there is area of the grass can be found by dropping the area from the square from the area of the circle. Area of compound form = $706.9 - 16 = 690.9 \text{ m}^2$ So this is the area of grass portion of the garden. So if you find areas of composite forms then you just need to break up the mold into smaller shapes. Once found, you add these areas or pull them down to give the area of the entire composite shape. For some more examples about working out the areas of composite forms look at the page shown below: Questions & Answers: How do we calculate the surface area of a cuboid? Answer: Finding the surface area of a cuboid works from the surface area of the 6 rectangular surfaces that make the cuboid and add it. Question: How do we calculate the area of the cuboid? Answer: I think you mean the surface area of the cuboid. It can be found by area of the 6 surfaces that make the cuboid work out, adding them completely. Question: How do you calculate Pi times the radius square? Answer: For example, if the radius of the circle is 5, is, out of 3.14 times 5 times 5 (or use the Pi button on your calculator for a more accurate answer). Commentspoppy-17 on February 15, 2019,what if there is a square and a semi-circle on top, how do you work out of that home/math/area calculator The following are calculators to assess the surface area of seven common forms. The area of more complex shapes can usually be obtained by breaking them down into their total simple forms, and the total of their areas. This calculator is especially useful for estimation of territory. Rectangle Triangle Uses the Triangle Calculator to determine all three edges of the triangle given other parameters. Trapezoid Circle Sector Ellipse Parallelogram RelatedSurface Area Calculator | Volume Calculator Area is a quantity that describes the size or extent of a two-dimensional figure or shape in a aircraft. It can be visualized as the amount of paint that would be needed to cover a surface, and is the two-dimensional counterpart of the one-dimensional length of a curve, and three-dimensional volume of a solid. The standard unit of the area in the International System of Units (SI) is the square meter, or m². Below are comparisons for some of the most common simple forms, and examples of how the area of each one is calculated. Rectangle A rectangle is a quadrangle with four right corners. It is one of the simplest forms, and calculating its area only requires its length and width to be known (or measured). A quadrilateral by definition is a polygon that has four edges and vertices. In the case of a rectangle, the length usually refers to the longer two edges of the quadrilateral, while the width refers to the shorter of the two edges. When the length and width of a rectangle are equal, the shape is a special instance of a rectangle, called a square. The equation for calculating the area of a rectangle is as follows: area = length \times width Die en side - Unsold Soil Imagine a trying to sell a piece of land that happens to be perfectly rectangular. Because he owns a few cows that he did not want to frolic freely, he fenced the plot of land and knows the exact length and width of each edge. He also lives in the United States, and to be unfamiliar with the use of SI units, still measure its plot of land in terms of feet. The foot was defined to be exactly 0.3048 meters in 1959 after changing over an extended period of time, as historically, the human body was often used to provide a base for unit length, and unsurprisingly, was inconsistent with time and place. Tangible aside, the's plot of land has a length of 220 feet, and a width of 99 feet. Using this information: area = $220 \times 99 = 21780 \text{ sq ft}$ The se plot of land, which has an area of 21,780 foot is equivalent to half an acre, where an acre is defined as the area of 1 chain by 1 furlong, which is defined by otherwise, and so on, and therefore SI now exists. Unfortunately for living in an area dominated by foreign investors with smaller feet, who felt that they should get more square feet for their money, and his land remains unsold today. Triangle There are many comparisons for calculating the area of a triangle based on what information is available. As mentioned in the calculator above, please use the Triangle Calculator for further details and comparisons for calculating the area of a triangle, as well as determining the sides of a triangle using whatever information is available. In short, the comparison used in the calculator provided above is known as Heron's formula (sometimes called Hero's Formula), referring to the Hero of Alexandria, a Greek mathematician and engineer regarded by some as the greatest experimenter of ancient times. The formula is as follows: The and his Daughter - Triangle Daze At this time, through extreme effort and perseverance, the eventually sold its 21,780 square foot plot of land and decided to use some of the money earned from building a pool for his family. Unfortunately for that, he does not consider the fact that for one year the maintenance cost of a swimming pool can probably pay for his children to visit any swimming pool or water theme park for years to come. Even more unfortunately for the, his 7-year-old daughter who recently traveled through Dora the Explorer to Egypt has fallen in love with triangles, insisting the pool is not only triangular in shape, but also that the meetings should include only the number 7, to represent her age and firm up this point of her life in the shape of a triangular pool. Being a dot father obtains the his daughter's request and continues to plan the construction of his triangular pool. The must now determine whether he has sufficient area in his backyard to house a swimming pool. While the lake began to learn about SI units, he is still so uncomfortable with using it and decides that his only viable option is to construct a swimming pool in the form of an equalising triangle with silk 77 feet long, since any other variation would be either too large or small. Given these dimensions determine the necessary area as follows: Since the longest distance between any two points of an equivalent triangle is the length of the edge of the triangle, the sides of the pool front for swimming laps in its triangular pool with a maximum length retain about half of an Olympic pool, but with double the area - all under the watchful eyes of the , his daughter, and the disapproving glare of his wife. Tratrapezoid a tracanoid is a simple convex quadrilateral that has at least one pair of parallel edges. property of convex means that a angle no more than 180° (by contrast, a concave quadrilateral would), while it simply reflects that trapezoids are not self-crossing, meaning two non-adjacent sides do not cross. In a tracaeloid, the parallel edges are referred to as the bases of the tracenoids, and the other two sides are called the bones. There are more distinctions and classifications for different types of trapezoids, but their areas are still calculated in the same way by using the following equation: where b1 and b2 are the bases. h is the height, or perpendi worst distance between the bases The and his Daughter - Rampaging Endeavors Two years have passed since the pool was completed, and his daughter grew and matured. While her love of triangles continues, she finally came to the realization that no matter how well-triangular she was, triangles alone can't let the world go around, and that Santa's workshop couldn't have credibly balance on the North Pole, the world was a pyramid rather than a sphere. Slowly, she has begun accepting other forms in her life and pursuing her myriad different interests — currently freestyle BMX. As such, she needs a ramp, but unfortunately for the, not just any driveway. The ramp should consist of only shapes that can be formed using several triangles, since like her rap idol B.o.B, the's daughter still struggles to accept the reality of curved surfaces. Of course, it should also only use the number 9 in its meetings to reflect her age. The decision that his best option is to build a ramp consisting of multiple rectangles, with the side face of the ramp being in the form of a traestoid. Since the now has become more comfortable with SI, he may be more creative with his use of units, and can build a more reasonable size ramp while complying with his daughter's demands. He decides to build a driveway with a trapezoidal face with height of 9 feet, a lower base of length 29.528 feet (9 m), and an upper base of 9 feet. The area of the traestoid is calculated as follows: area = $\times 9 = 173.376 \text{ sq ft}$ Circle A circle is a simple closed shape formed by the set of all points in an aircraft that is a given distance from a given center point. This distance from the center to any point on the circle is called the radius. More details can be found regarding circles on the Circle calculator page, but to calculate the area it is only necessary to know the radius, and understand that values in a circle are related by the mathematical constant π . The comparison for calculating the area of a circle is as follows: area = πr^2 The and his Daughter - Circle of Li (fjes Another six years has passed, and his daughter has grown into a strong, beautiful, powerful, confident 15-year-old in is getting focused solely on seeking external validation of acquaintances and strangers on social media wholeheartedly ignores true support from immediate family and friends. After having an argument with her father about her excessive use of social media, she decides to prey on her father's fear of the unknown and belief in the supernatural to polish him. Not knowing where to start, she walks around town and talks to a variety of strangers who all seem to have endless fountains of wisdom and advice, where she learns about crop circles and their association with aliens and unidentified flying objects as well as many other topics that ignore all scientific and logical explanations. Having finally been convinced of the spherical nature of the earth, deleted all her previous social media posts relating to B.o.B and extended her love of triangles to an acceptance of other forms, she decides to make a basic tumor circle consisting of a number of concentric circles, and wants to determine the area needed to create a crop circle with an outer radius of 15 feet. She does this using the following equation: area = $\pi \times 15^2 = 706.858 \text{ sq ft}$ Unhappy for the, not only is he afraid of the crop circle that appeared overnight on the night that his daughter told him she was at a slumber party with her friends, that for some strange reason didn't lead to redundant Instagram posts (he was obviously his daughter's follower) , but the number of pie investigators and cereologists showing up on his farm to investigate, and subsequently confirming the authenticity of the crop circuit as an alien construction, cost him significant damage to his crops. Sector A sector of a circle is essentially a part of the circle included by two radii and a bow. Given a radius and an angle, the area of a sector can be calculated by multiplying the area of the entire circle by a ratio of the known angle to 360° or 2 π radials, as shown in the following equation: area = $\times \pi r^2$ if θ is in degrees or area = $\times \pi r^2$ if θ is in radial Die and his Daughter - Division Family The and his family face their most important dilemma to date. One year went by, and the's daughter is now 16 years old and as part of her birthday celebration, her mother baked her favorite dessert, blackberry pie. Unfortunately for the's daughter, blackberry pie also happens to be a favorite food of their pet raccoon, Platypus, as evidenced by 180° worth of the pie is missing with telling signs of the culprit in the form of crumbs leading to the overspending raccoon. Initially, the pie would have easily been split between three people and one raccoon, but now half the pie should be split between three people as a tured, but saturated Platypus watches from a distance. Given that each person will receive 60° value from the pie with a radius of 16 the area of pie that each person receives can as calculated as follows: area= $60^\circ / 360^\circ \times \pi \times 16^2 = 134.041 \text{ in}^2$ Due to Platypus's inconsideration, each person gets a third less pie, and the daughter remembers the American history class, where she learned about the Battle of the Alamo and the portrayal of the folk hero Davy Crockett and his Ellipse An ellipse is the common form of a circle, and is a curve in an aircraft where the sum of the distances from any point on the curve to each of its two focal points is constant, as shown in the figure below, where P is at any point on the ellipse, and F1 and F2 are the two foci. When F1 = F2, the resulting ellipse is a circle. The semi-large axle of an ellipse, as shown in the figure that is part of the calculator, is the longest radius of the ellipse, while the semi-small axle is the shortest. The large and small axes refer to the diameter rather than radius of the ellipse. The equation for calculating the area of an ellipse is similar to that for calculating the area of a circle, with the only difference being the use of two radii, rather than one (since the foci are in the same place for a circle): area = πab where a and b are the semi-large and semi-small axes Die and his Daughter - Fall out of Orbit Two years has passed since the mysterious Platypus, and the's daughter's fortune winces from a furry accessory by the school lottery that helped fill the void of losing their beloved pet. The's daughter is now 18 and is ready to escape rural Montana for a college life replete with freedom and debauchery, and of course some learning on the side. Unfortunately for the se daughter, she grew up in an environment overflowing with positive reinforcement, and subsequently the mentality that one should shoot for the moon [since] even if you miss, you'll land under the stars, as well assertion everyone around her that she's absolutely anything she puts her mind to do! As such, with her suboptimal degrees, lack of any extracurricular activities because of her myriad different interests affecting all her spare time, zero planning, and her insistence on only applying the very best of the best universities, the shock that led when she was not accepted to any of the top-tier universities she applied to reasonably compared to her metaphorically landing in deep space, bloating, freezing, and quickly suffocating when she missed the moon and landed under the stars. Along with her lungs, her dream to an astrophysicist is summarily tearing, at least for the time being, and she was relegated to calculating the elliptical area needed in her room to build a human sized model of Earth's near elliptical orbit around the sun, so she could look longingly at the sun in the middle of her room and its impersonation of her room, burning with passion but surrounded by the cold vastness of space, with Earth's distant rotation mockingly representing the distance between her dreams, and solid ground. area = $\pi \times 18 \text{ feet} \times 20 \text{ feet} = 1130.97 \text{ sq ft}$ Parallelogram A parallelogram is a simple quadrilateral that has two pairs of parallel edges, where the opposite sides and corners of the quadrilateral have equal lengths and angles. Rectangles, rhombuses and squares are all special instances of parallelograms. Remember that classifying a simple form means that the form does not self-cross. A parallelogram can be divided into a right triangle and a trapezium, which can be further rearranged to form a rectangle, making the equation for calculating the surface area of a parallelogram that is essentially the same as that for calculating a rectangle. However, instead of length and width, a parallelogram use base and height, where the height is the length of the perpendicular between a few bases. Based on the figure below, the comparison for calculating the surface area of a parallelogram as follows: area = $b \times h$ Die en sy Daughter - Diamond in the Sky Two more years has passed in the life of the and his family, and although his daughter was a cause for intense worry, she finally has the distance between the burning sun that is her heart Bridge , and the earth on which society insists she must remain grounded. Through the struggle that followed from her self-imposed isolation, surrounded by imagined, judgmental eyes that presumed her failure from all directions, the's daughter emerged from the pressure of the earth like a diamond, bright and firm in her decision. Despite all its drawbacks, she decides that there is little choice but to continue through the asteroid field of life in the hope that a Disney fairy tale ends. In the long run, fortunately for the's daughter and her family, hope does appear, but not in the form of a Prince Charming, but rather as a sign from the supposed heavens. Through all her metaphorical musings and afflictions involving space, it becomes almost plausible that the's daughter somehow influenced the massive octardinal diamond asteroid that falls squarely but safely on their farmland, which she interprets as representative of her journey, formation and eventual homecoming. The farmer continues to measure the area of one of the rhomboid faces of her newfound symbol of life: territory = $20 \text{ feet} \times 18 \text{ feet} = 360 \text{ sq ft}$ Unhappy for the farmer's daughter, the look of the enormous diamond has attracted attention from around the world, and after sufficient pressure, she succumbs to man inside her, and sells the diamond , the representation of her life and soul, to a wealthy collector, and continues to live the rest of her life in lavish leaving her beliefs, and losing herself herself the black hole of society. Common Area Units Units