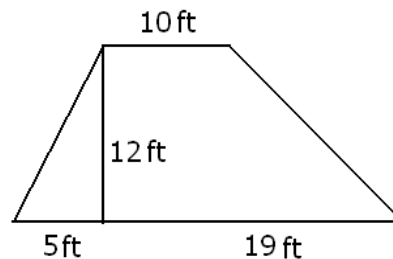


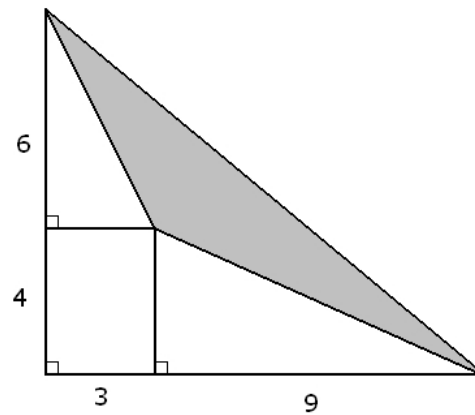
- Let $U = \{1, 2, \dots, 80\}$, $A = \{\text{numbers divisible by } 7\}$, $B = \{\text{numbers divisible by } 5\}$, and $C = \{\text{numbers less than } 40\}$. (A , B , and C are subsets of U .)
 - Find $A \cap B$.
 - Find $A \cap \overline{B}$.
 - How many proper subsets does $A \cap C$ have?
- We asked 100 students about their transportation to school. 65 uses public transportation, and 72 drives. 55 uses both of these occasionally. How many students drive to school and not use public transportation?
- Does the triangle with sides 7 in, 24 in, and 25 in have a right angle?
- Two sides of a right triangle are 20 cm and 29 cm. Find the third side.
- Compute $\binom{11}{3} + \binom{11}{6} - \binom{11}{9} - \binom{11}{10}$
- Find the distance between the points $A(5, -2)$ and $B(10, 10)$.
- The population of a town has increased from 80000 to 87200. What percent of a change does this represent?
- We borrowed \$2500 with an annual simple interest rate of 12%. How much money do we have to pay back after one year?
- We borrow \$2000 for a year, with a simple annual interest rate of 6%. After 5 months, we make a partial payment of \$700. How much do we have to pay back at the end of the two years?
- We borrow \$2000 for a year, with a simple annual interest rate of 6%. After 5 months, we make a partial payment of \$700. After an additional 9 months (that is, 14 months after the start), we make another partial payment of \$800. How much do we have to pay back at the end of the two years?
- Consider the trapezoid shown on the picture.
 - Find the perimeter of the trapezoid. Include units in your computation and answer.
 - Find the area of the trapezoid. Include units in your computation and answer.
 - The trapezoid is the base of a solid with height 4 ft. Find the volume of the solid.
 - The trapezoid is the base of a pyramid with height 4 ft. Find the volume of the pyramid.



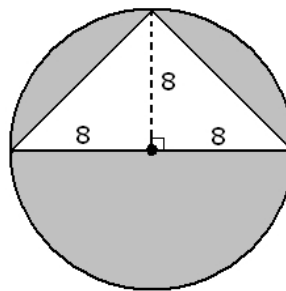
- Consider a circle with radius 12 m.
 - Compute the circumference of the circle. Include units in your computation and answer.
 - Compute the area of the circle. Include units in your computation and answer.
 - The circle is the base of cylinder with height 15 m. Find the volume of the cylinder. Include units in your computation and answer.
 - The circle is the base of cone with height 15 m. Find the volume of the cone. Include units in your computation and answer.

13. Consider the right triangle shown below.

- Find the area of the shaded region in the right triangle.
- Find the longest side in the triangle.



14. Find the area of the shaded region in the circle.



15. Find the area of the shaded region if the square has sides 12 m long.

