

1. How many centimeters are there in 1 yard if there are 2.54 centimeters per inch? Show your work and express your answer without rounding.
  2. If there are 1000 grams in a kilogram and 454 grams in a pound, how many pounds are there per kilogram? Round to the nearest tenth of a pound.
  3. Water is flowing out of an artesian spring at a rate of 8 cubic feet per minute. How many minutes will it take for the water to fill up a 300 gallon tank. There are 7.5 gallons of water per cubic foot. Show or explain how you arrive at your answer.
  4. A high school track athlete sprints 100 yards in 15 seconds.
    - (a) Determine the number of feet per second the runner is traveling at. Show your work.
    - (b) If there are 5280 feet in a mile and 3600 seconds in an hour, determine the runner's speed in miles per hour. Round to the nearest tenth.
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R1. Tell whether each sentence is true or false, and tell whether the commutative property holds for the given operation.

a)  $357 + 19 = 19 + 357$

b)  $25 - 7 = 7 - 25$

R2. Tell whether each sentence is true or false, and tell whether the associative property holds for the given operation.

a)  $(73 \times 68) \times 92 = 73 \times (68 \times 92)$

b)  $(24 \div 6) \div 2 = 24 \div (6 \div 2)$

R3. Simplify.  $3x(5x - 1)$

R4. Simplify.  $x^2 + 5x(x + 2) - 10x$

R5. Simplify.  $9 - 3(2y - 10)$

R6. Multiply:  $(x^2 - 4)(x+4)$

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1. 91.44 cm
  2. 2.2 pounds
  3. 5 minutes
  4. (a) 20 feet per second  
(b) 13.6 miles per hour.

- R1. a) True, Yes  
b) False, No
- R2. a) True, Yes  
b) False, No
- R3.  $15x^2 - 3x$
- R4.  $6x^2$
- R5.  $-6y + 39$
- R6.  $x^3 + 4x^2 - 4x - 16$