

## PAlg - Transforming Formulas (7-6) HW

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**For questions 1 and 6, FIRST write the equation described by the question, THEN solve.**

- 1) How old am I if 400 reduced by 4 times my age is 148?
- 2) How old am I if 300 reduced by 3 times my age is 102?
- 3) You had \$24.40 to spend on seven avocados. After buying them you had \$4.10. How much did each avocado cost?
- 4) Amanda had \$22.24 to spend on six notebooks. After buying them she had \$6.94. How much did each notebook cost?
- 5) The sum of three consecutive odd numbers is 75. What is the smallest of these numbers?
- 6) The sum of three consecutive even numbers is 42. What is the smallest of these numbers?

**For the odd questions below, solve for the indicated variable. Use your work on the odd questions to help answer the even questions.**

- 7) For a triangle,  $A = \frac{1}{2}bh$ . Solve for  $b$ .
- 8) For a triangle with an area of 18 and a height of 5, what is the length of the base?
- 9) For a triangle,  $A = \frac{1}{2}bh$ . Solve for  $h$ .
- 10) For a triangle with an area of  $10\frac{1}{2}$  and a base of 8, what is the height?
- 11) For a trapezoid,  $A = \frac{1}{2}(b_1 + b_2)h$ . Solve for  $b_2$ .
- 12) For a trapezoid with an area of 58, a height of 10, and one base with a length of 4, what is the length of the second base?
- 13) For a trapezoid,  $A = \frac{1}{2}(b_1 + b_2)h$ . Solve for  $h$ .
- 14) For a trapezoid with an area of 1050, one base with a length of 50 and a second base with a length of 85, what is the height?
- 15) To find the circumference  $C$  of a circle,  $C = d \cdot \pi$ . Solve for  $d$ .
- 16) For a circle with a circumference of  $80\pi$ , what is the length of the diameter?
- 17) The diameter  $d$  of a circle is two times the radius  $r$ . Considering that  $C = d \cdot \pi$  and  $d = 2r$ , solve for the radius  $r$  with regards to the circumference  $C$ .
- 18) For a circle with an area of  $6.4\pi$ , what is the length of the radius?

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**For questions 1 and 6, FIRST write the equation described by the question, THEN solve.**

- 1) How old am I if 400 reduced by 4 times my age is 148?  
**63**
- 2) How old am I if 300 reduced by 3 times my age is 102?  
**66**
- 3) You had \$24.40 to spend on seven avocados. After buying them you had \$4.10. How much did each avocado cost?  
**\$2.90**
- 4) Amanda had \$22.24 to spend on six notebooks. After buying them she had \$6.94. How much did each notebook cost?  
**\$2.55**
- 5) The sum of three consecutive odd numbers is 75. What is the smallest of these numbers?  
**23**
- 6) The sum of three consecutive even numbers is 42. What is the smallest of these numbers?  
**12**

**For the odd questions below, solve for the indicated variable. Use your work on the odd questions to help answer the even questions.**

- 7) For a triangle,  $A = \frac{1}{2}bh$ . Solve for  $b$ .  $b = \frac{2A}{h}$
- 8) For a triangle with an area of 18 and a height of 5, what is the length of the base?  
**7.2**
- 9) For a triangle,  $A = \frac{1}{2}bh$ . Solve for  $h$ .  $h = \frac{2A}{b}$
- 10) For a triangle with an area of  $10\frac{1}{2}$  and a base of 8, what is the height?  
 **$2\frac{5}{8}$**
- 11) For a trapezoid,  $A = \frac{1}{2}(b_1 + b_2)h$ . Solve for  $b_2$ .  $b_2 = \frac{2A}{h} - b_1$
- 12) For a trapezoid with an area of 58, a height of 10, and one base with a length of 4, what is the length of the second base?  
**7.6**
- 13) For a trapezoid,  $A = \frac{1}{2}(b_1 + b_2)h$ . Solve for  $h$ .  $h = \frac{2A}{b_1 + b_2}$
- 14) For a trapezoid with an area of 1050, one base with a length of 50 and a second base with a length of 85, what is the height?  
**0**
- 15) To find the circumference  $C$  of a circle,  $C = d \cdot \pi$ . Solve for  $d$ .  $d = \frac{C}{\pi}$
- 16) For a circle with a circumference of  $80\pi$ , what is the length of the diameter?  
**80**
- 17) The diameter  $d$  of a circle is two times the radius  $r$ . Considering that  $C = d \cdot \pi$  and  $d = 2r$ , solve for the radius  $r$  with regards to the circumference  $C$ .  $r = \frac{C}{2\pi}$
- 18) For a circle with an area of  $6.4\pi$ , what is the length of the radius?  
**3.2**