

## 2.4 Practice Problems

Write a general formula to describe each variation. Use these directions for 1-3.

1.  $y$  varies directly with  $x$ ;  $y=15$  when  $x=10$

2.  $y$  varies inversely with  $x$ ;  $y=2$  when  $x=10$

3.  $y$  varies jointly with  $x$  and  $z$ ;  $y=42$  when  $x=2$  and  $z=7$

4. The perimeter of a square varies directly with the length of its side. If a square with a perimeter of 20 inches has a side of length 5 inches find a formula that relates the perimeter of a square to the length of the side. Then find the perimeter of a square that has a side of 9 inches.

5. The volume of a right circular cylinder varies jointly with the square of its radius and its height. If a right circular cylinder has a volume of  $45\pi \text{ cm}^3$  with a radius of 3 cm and height of 5 cm find the formula that relates the volume of a right circular cylinder to the radius and height.