

Compression Ratio Lesson 1 Worksheet

Name

Key

Solve the following using the cubic inch displacement formula and the convert to the indicated unit. Show work and use appropriate units.

1. A 5.7 L engine has a piston displacement of 717 cc and a chamber volume of 88 cc. What is the compression ratio?

$$CR = \frac{PD + CV}{CV} = \frac{717 + 88}{88} = \frac{805}{88} = 9.1$$

9.1 to 1

2. A 400 CID engine has a piston displacement of 819.5 cc and a chamber volume of 70 cc. What is the compression ratio?

$$CR = \frac{819.5 + 70}{70} = \frac{889.5}{70} = 12.7$$

12.7 to 1

3. A 454 CID engine has a piston displacement of 930.1 cc and a chamber volume of 100 cc. What is the compression ratio?

$$CR = \frac{930.1 + 100}{100} = \frac{1030.1}{100} = 10.3$$

10.3 to 1

4. A 318 CID engine has a piston displacement of 651.5 cc and a chamber volume of 75 cc. What is the compression ratio?

$$CR = \frac{651.5 + 75}{75} = \frac{726.5}{75} = 9.7$$

9.7 to 1

5. A 428 CID engine has a piston displacement of 876.8 cc and a chamber volume of 84.3 cc. What is the compression ratio?

$$CR = \frac{876.8 + 84.3}{84.3} = \frac{961.1}{84.3} = 11.4$$

11.4 to 1

6. A 250 CID engine has a piston displacement of 683.1 cc and a chamber volume of 85 cc. What is the compression ratio?

$$CR = \frac{683.1 + 85}{85} = \frac{768.1}{85} = 9.0$$

9.0 to 1

7. Find the value of y in the equation $y = \frac{2}{3}x + 7$ if $x = 12$.

$$y = \frac{2}{3}(12) + 7$$
$$y = 8 + 7$$
$$y = 15$$

8. Find the value of y in the equation $y = -2x + 19$ if $x = 7$.

$$y = -2(7) + 19$$
$$y = -14 + 19$$
$$y = 5$$

9. Find the value of y in the equation $y = \frac{3}{2}x + 6$ if $x = 4$.

$$y = \frac{3}{2}(4) + 6$$
$$y = 6 + 6$$
$$y = 12$$

10. Find the value of y in the equation $y = \frac{8x-3}{2z}$ if $x = 15$ and $z = 4$.

$$y = \frac{8(15) - 3}{2(4)} = \frac{120 - 3}{8} = \frac{117}{8}$$

11. Find the value of y in the equation $y = \frac{23+x}{z}$ if $x = 4$ and $z = 9$.

$$y = \frac{23+4}{9} = \frac{27}{9} = 3$$

12. Find the value of c , when $a = 15$ and $b = 12$ in the equation $c = \frac{2a-b}{b}$.

$$c = \frac{2(15) - 12}{12} = \frac{30 - 12}{12} = \frac{18}{12} = 1.5$$

13. Find the value of c , when $a = 7$ and $b = 2$ in the equation $c = \frac{2a-b}{b}$.

$$c = \frac{2(7) - 2}{2} = \frac{14 - 2}{2} = \frac{12}{2} = 6$$