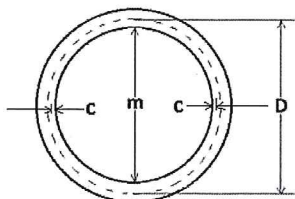


Brake Drums #2 Worksheet

Name KEY



$$m + 2c < D$$

If the inequality is true, the brake drum is ok.

If the inequality is false, the brake drum must be discarded.

1. The maximum diameter of a brake drum is listed as 12.050 inches. The drum measures 11.880 inches. What size cut can be made before the drum must be discarded?

$$\begin{aligned} m &= 11.880 \text{ in} \\ c &= ? \\ D &= 12.050 \text{ in} \end{aligned}$$

$$\begin{aligned} m + 2c &< D \\ 11.880 + 2c &< 12.050 \\ -11.880 & \quad -11.880 \\ 2c &< 0.170 \end{aligned}$$

$$\begin{aligned} \frac{2c}{2} &< \frac{0.170}{2} \\ c &< 0.085 \end{aligned}$$

cut must be less than 0.085 inch

2. The maximum diameter of a brake drum is listed 10.050 inches. The drum measures 10.018 inches. What size cut can be made before the drum must be discarded?

$$\begin{aligned} m &= 10.018 \text{ in} \\ c &= ? \\ D &= 10.050 \text{ in} \end{aligned}$$

$$\begin{aligned} m + 2c &< D \\ 10.018 + 2c &< 10.050 \\ -10.018 & \quad -10.018 \\ 2c &< 0.032 \end{aligned}$$

$$\begin{aligned} \frac{2c}{2} &< \frac{0.032}{2} \\ c &< 0.016 \end{aligned}$$

cut must be less than 0.016 inch

3. The maximum diameter of a brake drum is listed 11.095 inches. The drum measures 11.055 inches. What size cut can be made before the drum must be discarded?

$$\begin{aligned} m &= 11.055 \text{ in} \\ c &= ? \\ D &= 11.095 \text{ in} \end{aligned}$$

$$\begin{aligned} m + 2c &< D \\ 11.055 + 2c &< 11.095 \\ -11.055 & \quad -11.055 \\ 2c &< 0.040 \end{aligned}$$

$$\begin{aligned} \frac{2c}{2} &< \frac{0.040}{2} \\ c &< 0.020 \end{aligned}$$

cut must be less than 0.02 inch

4. The maximum diameter of a brake drum is listed 208.00 mm. The drum measures 206.50 mm. What size cut can be made before the drum must be discarded?

$$\begin{aligned} m &= 206.50 \text{ mm} \\ c &= ? \\ D &= 208.00 \text{ mm} \end{aligned}$$

$$\begin{aligned} m + 2c &< D \\ 206.50 + 2c &< 208.00 \\ -206.50 & \quad -206.50 \\ 2c &< 1.5 \end{aligned}$$

$$\begin{aligned} \frac{2c}{2} &< \frac{1.5}{2} \\ c &< 0.75 \end{aligned}$$

cut must be less than 0.75 mm

5. Solve the inequality for x.
 $7 + x < 18$

$$\begin{aligned} -7 & \quad -7 \\ x &< 11 \end{aligned}$$

6. Solve the inequality for x.

$$\begin{aligned} -10 + 2x &< 68 \\ +10 & \quad +10 \end{aligned}$$

$$\begin{aligned} 2x &< 78 \\ x &< 39 \end{aligned}$$

7. Solve the inequality for x.

$$\begin{aligned} -3x - 22 &< 50 \\ +22 & \quad +22 \end{aligned}$$

$$\begin{aligned} -3x &< 72 \\ -3 & \quad -3 \\ x &> 24 \end{aligned}$$

8. Solve the inequality for x.

$$\begin{aligned} 25 - 2x &< 97 \\ -25 & \quad -25 \end{aligned}$$

$$\begin{aligned} -2x &< 72 \\ -2 & \quad -2 \\ x &> -36 \end{aligned}$$