



Machining Speed & Feed Practice Problems

Name: _____ Date: _____

1.

A 1/4" endmill cuts aluminum at **600 SFM**.

Find the **RPM**.

(Formula: $RPM = SFM \times 3.82 \div D$)

2.

Using the RPM from Question 1, the endmill has **2 flutes** and a **feed per tooth (fZ)** of **0.0025"**.

Find the **feed rate (IPM)**.

($IPM = fZ \times Z \times RPM$)

3.

A 3/4" **facemill** with **5 inserts** runs at **450 SFM** and **0.005" feed per tooth**.

Find the **RPM** and **IPM**.

4.

A 1/2" **drill** cuts mild steel at **100 SFM** with a **feed per revolution (fn)** of **0.006"**.

Calculate **RPM** and **IPM**.

5.

An 1/8" **carbide endmill** machines stainless steel at **250 SFM**.

If it has **4 flutes** and **fZ = 0.001"**, find the **RPM** and **IPM**.

6.

A **2.5" facemill** with **8 inserts** is used on aluminum at **1000 SFM** with **fZ = 0.010"**.
Determine **RPM** and **IPM**.

7.

A **3/8" endmill** in brass runs at **500 SFM**, with **3 flutes** and **fZ = 0.003"**.
Find **RPM** and **IPM**.

8.

A **5/8" drill** cutting cast iron runs at **80 SFM** and **fn = 0.008"**.
Find **RPM** and **IPM**.

9.

An **endmill** with **4 flutes** runs at **1200 SFM** and **fZ = 0.004"**.
If the tool diameter is **1"**, find **RPM** and **IPM**.

10.

If the **SFM** for a tool is **increased by 40%** while **fZ** stays constant, what happens to:

- **RPM**
- **Feed rate (IPM)**
- **Tool wear**

Explain your reasoning.