

## Answer on Question #59846 – Math – Algebra

### Question

A VSAT satellite connection provides the community in Tokmak with a download speed of up to 1.0 Mbps and an upload speed of up to 512 kbps. How much time (in minutes) will it take to:

- a) download
- b) upload a 3.2 MB photograph?

Give all your answers to 3 significant figures.

Please show all working out, plus long figures so it can be put into a word document.

### Solution

$$512 \text{ kbps} = 0.5 \text{ Mbps} = 30.0 \text{ Mbpm},$$

$$1 \text{ Mbps} = 60.0 \text{ Mbpm},$$

where pm = per minute.

$$3.2 \text{ MB} = 25.6 \text{ Mb}.$$

$$\text{a) } t = \frac{25.6 \text{ Mb}}{60.0 \text{ Mbpm}} = 0.42(6) \text{ minutes} \approx 0.427 \text{ minutes}.$$

$$\text{b) } t = \frac{25.6 \text{ Mb}}{30.0 \text{ Mbpm}} = 0.85(3) \text{ minutes} \approx 0.853 \text{ minutes}.$$

**Answer:**

**a)** 0.427 minutes.

**b)** 0.853 minutes.