Name: _____Key_____

Practice – 25.6 Image Formation by Lenses Part 1

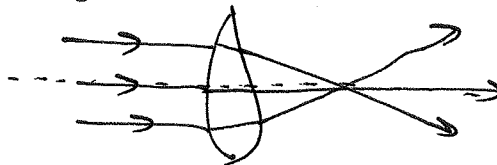1. What is the power in diopters of a camera lens that has a 50.0 mm focal length?

$$P = \frac{1}{f} = \frac{1}{50.0 \times 10^{-3} \, m} = \boxed{20.0 \, D}$$

2. What is the focal length of 1.75 D reading glasses found on the rack in a pharmacy?

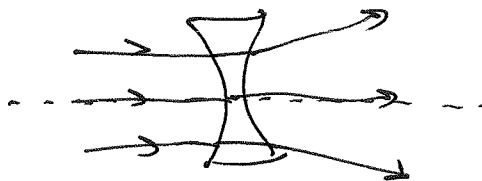$$P = \frac{1}{f} \Rightarrow f = \frac{1}{P} = \frac{1}{1.75 D} = \boxed{0.571 \, m}$$

3. In what direction does a convex lens bend the light? Away or toward the principal axis of the lens?

$$\boxed{\text{Toward}}$$

4. In what direction does a concave lens bend the light? Away or toward the principal axis of the lens?

$$\boxed{\text{Away}}$$

5. How far from a piece of paper must you hold your father's 2.25 D reading glasses to try to burn a hole in the paper with sunlight?

$$f = \frac{1}{P} = \frac{1}{2.25 D} = \boxed{0.444 \, m}$$