**Exercise 4**

**1.** Consider the following class:

***class Pet***

***{***

***public:***

***virtual ~Pet() = 0;***

***};***

***class Cat : public Pet { };***

***Pet\* p = new Cat;***

**a.** What is the static type of *p*?

**b.** What is the dynamic type of *p*?

**2.** What does it mean to have a virtual function in a base class?

**3.** What does it mean to override a virtual function?

**4.** Under what circumstances should you have a virtual destructor?

**5.** What is a pure virtual function?

**6.** When would you write a pure virtual destructor?

**7.** What kind of class is *Pet*?