Name _____   Date _____

LESSON 4.3 **Challenge Practice**
For use with the lesson "Write Linear Equations in Point-Slope Form"

In Exercises 1–4, find the value of *k* so that the line passing through the given points has the given slope. Write an equation of the line in point-slope form.

1. $(k, k + 1), (k - 3, 3k + 4), m = 2$

2. $(k, k), (k + 3, k + 1), m = k$

3. $(k + 2, k - 1), (-3, k + 1), m = 1$

4. $(k, k + 1), (k + 2, 2k + 3), m = 2k$

In Exercises 5–8, write an equation in point-slope form of the line that passes through the given points.

5. $(2, 3), (p, 4), p \neq 2$

6. $(2p, 2), (p, 5), p \neq 0$

7. $(3p, 5p + 1), (-2p, -4), p \neq 0$

8. $(p + 1, 3p - 2), (-p + 3, -4p), p \neq 1$

In Exercises 9–11, use the following information.

Ted is taking an exam consisting of 100 multiple choice problems. By noon Ted has finished 20 problems, but he starts to worry that he will not be able to finish the exam in time. Twenty minutes later Ted checks and sees that he has finished 30 problems.

9. Using y to represent the number of multiple choice problems completed, write an equation in point-slope form that gives the number of questions Ted has completed at a time x hours after noon.

10. If Ted continues working at the same rate, how many problems will he expect to have completed two hours after starting the exam?

11. From start to finish, how many hours should Ted need to complete the exam?