Year 13 Science: Investigating an aspect of astronomy with real data

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. A star of radius 7.0×10^5 km dims by 0.25% during a transit. Find the planet's radius.

2. A planet orbits a Sun-like star at 4.0 AU. What is its orbital period?

3. A star has a parallax of 0.10 arcseconds. How far away is it in parsecs and light years?

4. If a planet's radius were doubled, by what factor would its transit depth change?

5. For a report on an exoplanet's radius, which is more reliable: the NASA Exoplanet Archive or a news article, and why?

Fix the mistake

6. Correct this statement: "A 1% dip means the planet is 1% of the star's radius."

7. Correct this statement: "Kepler's third law: $T = a^3$."

8. Correct this statement: "A bigger parallax means a star is further away."

9. Correct this statement: "I used five websites, so my information is reliable."