Lesson 9.5 Practice: Vector Applications

School Launch · Trigonometry · Unit 9: Polar Coordinates and Vectors · Worksheet A

Scientific calculator

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. A plane flies at 220 mph on a heading of $277°$ (clockwise from north). A 38 mph wind blows toward $342°$. Find the ground speed (nearest mph). EASY

2. A plane flies at 280 mph on a heading of $170°$ (clockwise from north). A 26 mph wind blows toward $112°$. Find the ground speed (nearest mph). EASY

3. A plane flies at 328 mph on a heading of $168°$ (clockwise from north). A 60 mph wind blows toward $358°$. Find the ground speed (nearest mph). EASY

4. A plane flies at 397 mph on a heading of $71°$ (clockwise from north). A 22 mph wind blows toward $323°$. Find the ground speed (nearest mph). MEDIUM

5. A plane flies at 481 mph on a heading of $107°$ (clockwise from north). A 74 mph wind blows toward $142°$. Find the ground speed (nearest mph). MEDIUM

6. A plane flies at 367 mph on a heading of $267°$ (clockwise from north). A 72 mph wind blows toward $329°$. Find the ground speed (nearest mph). MEDIUM

7. A plane flies at 241 mph on a heading of $105°$ (clockwise from north). A 44 mph wind blows toward $72°$. Find the ground speed (nearest mph). MEDIUM

8. A plane flies at 576 mph on a heading of $282°$ (clockwise from north). A 41 mph wind blows toward $275°$. Find the ground speed (nearest mph). HARD

9. A plane flies at 394 mph on a heading of $145°$ (clockwise from north). A 62 mph wind blows toward $354°$. Find the ground speed (nearest mph). HARD

10. A plane flies at 422 mph on a heading of $323°$ (clockwise from north). A 27 mph wind blows toward $48°$. Find the ground speed (nearest mph). HARD