

Answer Sheet for Aviation Reasoning

Give yourself **25 minutes** to answer these questions.

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WORKING SPACE

1. _____ hr _____ min

2. _____ hr _____ min

3. _____ kph

4. _____ hr _____ min

5. _____ km

6. _____ mil

7. _____ min

8. _____ km

9. _____

10. _____ gal

11. _____ min

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WORKING SPACE

12. _____ kph

13. _____ hr _____ min

14. _____ km

15. _____ kts

16. _____ gal

17. _____ kph

18. _____ o'clock

19. _____ km

20. _____ gal

21. _____ kph

22. _____ gal

Practice Sample Test for Aviation Reasoning.

This test measures your ability to solve time-speed-distance problems common in aviation. Before you start the test, practice doing calculations manually as you will *NOT* be able to use calculators during the actual test. When you are ready to start the practice test, allow yourself **25 minutes** to complete it. Place all of your working and your answers on the answer sheet. Rough working for equations can be done within the section marked "Working Space". There are no extra marks for showing how you worked out the answer; one point is given for each correct answer. Work rapidly and carefully until your time runs out.

Note: kph = kilometres per hour

1 knot (kts) = 1 nautical mile per hour

1. If a Beech King Air B200 flies at 500 kph. How long does it take to cover 1250 km?
2. A King Air B200 flies for 2 hours at a rate of 500 kph. How much additional flying time at the same speed will it require to complete a 3500 km flight?



3. An aircraft flew 750 km in 2.5 hours and then returned to its starting point by a route 120 km longer in 3.5 hours. What was its average speed for the entire trip?

4. If the RNZAF B757 flies at 850 kph, how long will it take to fly a distance of 5100 km?
5. If the RNZAF B757 flies at 840 kph for 25 minutes, how many km will it travel?



6. If a mile is equal to 1.6 kms, how many miles are there in 80 kms?

7. If two A109 Light Utility Helicopters started at the same time fly towards each other from air fields 600 km apart, both are travelling at an average ground speed of 200 kph, how many minutes will it take for them to meet?



8. An A109 Light Utility Helicopter has enough fuel to go 520 km without refuelling when its tanks are 80% full. How many km could it go without refuelling when its tanks are half full?

9. A trainee pilot making some refuelling calculations, divided a number by 4 when they should have multiplied by 4. They got 2.5 as an answer. What was the correct answer?

10. A C-130H Hercules aircraft flew 1,500 km to its drop zone at the rate of 200 kph and returned to its base at the rate of 250 kph. It used 120 gallons of fuel per hour when flying at the rate of 200 kph and 150 gallons when flying at the rate of 250 kph. How many gallons of fuel did the Hercules start its flight with if it still had 100 gallons of fuel when it returned?



11. A RNZAF C-130H Hercules aircraft is climbing at a rate of 300 feet/min. How long will it take to climb from 4000 feet to 6400 feet?

12. If a C-130H Hercules is to fly 625 km in 1 hour and 15 minutes, what is its average speed?

13. A SH-2G (I) Seasprite helicopter making a 650 km trip flies the first 400 km in 2 hours. If the speed of the Seasprite is increased by 25% during the remaining distance, how long would the entire trip take?



14. A SH-2G (I) Seasprite helicopter has enough fuel to go 622 km without refuelling when its tank is 75% full. How many km could it go without refuelling when its tank is 50% full?

15. If a Seasprite helicopter travels 225 nautical miles in 90 minutes, what is its speed in knots?

16. A P3-K2 aircraft is to fly to a point 1500km from its base and then return. Because of a prevailing wind, the return trip will require 1/3 more petrol than the outgoing trip. If the fuel needed for the round trip is 525 gallons, how many gallons will be required for the outgoing trip alone? Assume a linear relationship between fuel consumption and aircraft speed.



17. A P3-K2 Orion flew 1200 km in 2 hours and then returned to Whenuapai Air Base by a route 200 km longer in 3 hours. What was the Orion's average speed for the entire trip?

18. A NH90 helicopter left Ohakea Air Base at 8 a.m. en route to a paddock 375 km away. It stopped there for 45 minutes to refuel and then returned to Ohakea. Its speed on the outgoing flight was 250 kph; its speed on the return trip was 20% faster. What time did it return to Ohakea?



19. If a NH90 helicopter travels at the rate of 300 kph for 25 minutes, how many km will it travel?

20. If an aircraft can fly 300 km on 75 gallons of fuel, how many gallons of fuel will it require to fly 620 km?

21. A T6-C Texan aircraft is to fly 1250 km in 2 hours and 30 minutes, what is its average speed?



22. An aircraft consumes 30 gallons of fuel per hour when flying at a speed of 100 kph. At speeds above 100 kph, its fuel consumption increases 10% for each increase in speed of 25 kph. If the aircraft was to fly for one hour at 100 kph, and for the next 2 hours at 125 kph, how many gallons of fuel would it consume?