

Name _____



Distance, Speed, & Time Flight Planning

A calculator is recommended for this activity.

Use data from the **Specifications** section of the information displays for each plane in this activity. The specifications data will include maximum speed (fastest possible) and range (distance until it runs out of gas). Finish the math problem to find the actual speed, distance, or time, then check to make sure the aircraft can accomplish the trip as planned.

Formulas

SPEED = distance / time
DISTANCE = speed x time
TIME = distance / speed



Doing the Calculations

If the problem asks for the speed, I'm going to do _____ divided by _____

If the problem asks for the distance, I'm going to do _____ times _____

If the problem asks for the time the trip will take, I'm going to do _____ divided by _____

Stearman PT-17

Kevin is planning a trip in his biplane from Houston to Baton Rouge, LA, a distance of 256 miles. He plans to take 2 hours to get there. At what speed will he need to fly? _____ mph.

Check the data:

Can the plane handle flying at this speed? (Is it below the maximum speed of the plane?) _____

How much gas does he need? (Fuel burn: gallons per hour x number of hours in flight) _____ gallons

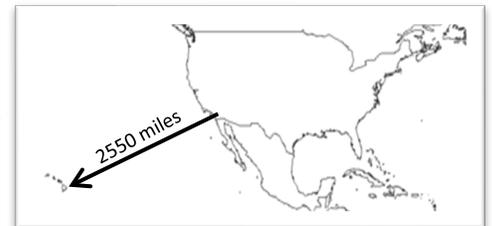
Corsair F4U

Doug wants to take the Corsair to an air show in Honolulu, Hawaii. The trip would be 3927 miles, and he's running late so he will fly at the plane's maximum speed of _____ mph. How long will the trip take? _____ hours.

Check the data:

The range of a plane is the distance it can travel on one tank of gas, and for the Corsair this is _____ miles. Can Doug make this trip? _____

The folding wings are a clue that he could make the trip IF ... _____



SNJ T6 Texan

Inge is excited to fly the T6 Texan for the first time and wants it to be a flight she'll never forget. She plans on going 200mph for 3 hours. The Crew Chief has given her 100 gallon of fuel. What will be the total flight distance? _____ miles.

Check the data:

Inge can handle it, but can the plane? Is she within the maximum speed (Y N), range(Y N), and fuel needs (Y N) for her flight?

Sikorsky S-76A Helicopter

Lyle is flying the Sikorsky out to an oil rig in the Gulf of Mexico that is 375 miles away. He left Ellington Field at 8:00 am. If he flies at 150 miles an hour, what time should he arrive at the rig? _____

Check the data:

The flight is _____ hours. If he has a full tank of gas, will he make it? _____
How much gas will he burn? _____ gallons

Douglas DC-3

Chris and Anna took a trip from Houston to Nashville in the DC-3. Nashville is 655 miles away and the trip took 4 hours. Did the plane fly at its maximum speed? _____

Check the data:

Trip speed = _____ mph Maximum speed = _____ mph
This flight would require _____ gallons of fuel.
Is it within the maximum speed (Y N), range(Y N), and fuel needs(Y N) for their flight?

B-25 Mitchell

When the Doolittle Raiders left the *USS Hornet* in B-25 bombers to attack Japan, they were 650 miles away from the island. The flight took 6 hours. What was the average speed flown by the bombers? _____ mph

Check the data:

After the air raid, most of the planes ended up crash landing because they ran out of fuel. The trip they flew is by far within the range the plane should be able to fly. Why do you think they crashed far less than full range of the plane?

Distance, Speed, & Time

Flight Planning

A calculator is recommended for this activity.

Use data from the **Specifications** section of the information displays for each plane in this activity. The specifications data will include maximum speed (fastest possible) and range (distance until it runs out of gas). Finish the math problem to find the actual speed, distance, or time, then check to make sure the aircraft can accomplish the trip as planned.

Formulas

SPEED = distance / time

DISTANCE = speed x time

TIME = distance / speed



Doing the Calculations

If the problem asks for the **speed**, I'm going to do distance divided by time

If the problem asks for the **distance**, I'm going to do speed times time

If the problem asks for the **time** the trip will take, I'm going to do distance divided by speed

Stearman PT-17

Kevin is planning a trip in his biplane from Houston to Baton Rouge, LA, a distance of 256 miles. He plans to take 2 hours to get there. At what speed will he need to fly? 128 mph.

Check the data:

Can the plane handle flying at this speed? (Is it below the maximum speed of the plane?) yes

How much gas does he need? (Fuel burn: gallons per hour x number of hours in flight) 24 gallons

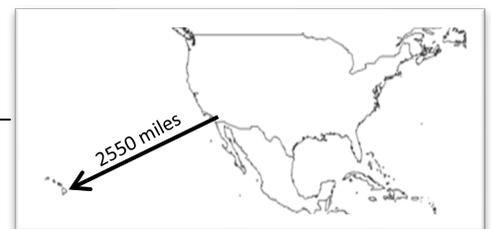
Corsair F4U

Doug wants to take the Corsair to an air show in Honolulu, Hawaii. The trip would be 3927 miles, and he's running late so he will fly at the plane's maximum speed of 462 mph. How long will the trip take? 93.5 hours.

Check the data:

The range of a plane is the distance it can travel on one tank of gas, and for the Corsair this is 1120 miles. Can Doug make this trip? NO!

The folding wings are a clue that he could make the trip IF ... he went most of the way on an aircraft carrier.



SNJ T6 Texan

Inge is excited to fly the T6 Texan for the first time and wants it to be a flight she'll never forget. She plans on going 200mph for 3 hours. The Crew Chief has given her 100 gallon of fuel. What will be the total flight distance? 600 miles.

Check the data:

Inge can handle it, but can the plane? Is she within the maximum speed (Y N), range(Y N), and fuel needs (Y N) for her flight?

Sikorsky S-76A Helicopter

Lyle is flying the Sikorsky out to an oil rig in the Gulf of Mexico that is 375 miles away. He left Ellington Field at 8:00 am. If he flies at 150 miles an hour, what time should he arrive at the rig? 10:30 am

Check the data:

The flight is 2.5 hours. If he has a full tank of gas, will he make it? yes

How much gas will he burn? 262.5 gallons

Douglas DC-3

Chris took a trip from Houston to Nashville in the DC-3. Nashville is 655 miles away and the trip took 4 hours.

Did the plane fly at its maximum speed? No

Check the data:

Trip speed = 164 mph Maximum speed = 230 mph

This flight would require 400 gallons of fuel.

Is it within the maximum speed (Y N), range(Y N), and fuel needs(Y N) for their flight?

B-25 Mitchell

When the Doolittle Raiders left the *USS Hornet* in B-25 bombers to attack Japan, they were 650 miles away from the island. The flight took 6 hours. What was the average speed flown by the bombers? 108 mph

Check the data:

After the air raid, most of the planes ended up crash landing because they ran out of fuel. The target was by far within the range the plane should be able to fly. Why do you think they crashed far less than full range of the plane?

The planes were loaded down with as many bombs as possible. More weight means more fuel must be burned. Also, they were not just going to the target site, they had to try to make it to their landing sites far withing China.
