

## Plotting the Rescue Assessment Answer Key

Scenario: American bombing of Nazi-controlled Europe began from bases in North Africa. Bombers manned by America's young men flew across the Mediterranean Sea to bomb military bases and industrial centers that provided war materials to the Nazis. Due to anti-aircraft guns and enemy fighter planes, many American and Allied crews were shot down, lost at sea, or forced to land in enemy territory. Your job is to chart their locations to ensure rescue efforts get to them.

Practice Questions:

Solve for y

$$\frac{1}{2}y = 3x - 4$$

$$y = 6x - 4$$

$$-4y = 2(x + 8)$$

$$y = -\frac{1}{2}x - 4$$

$$3(y + 4) = 2 + 4x$$

$$y = 1\frac{1}{3}x - 3\frac{1}{3}$$

$$y + \frac{3}{9} = 2x + 3$$

$$y = 2x + 2\frac{1}{3}$$

Solve for x

$$-y = 4x + 2$$

$$x = -\frac{1}{4}y - \frac{1}{2}$$

$$2 + y = 4x - 10$$

$$x = \frac{1}{4}y + 3$$

$$4(y + 3) = 4(x - 3)$$

$$x = y$$

## Plotting the Rescue Assessment Answer Key cont.

1. First locate the Royal Air Force Base in Egypt. Solve for  $x$  and determine the coordinates for the map. Label the base on your map.

$$\frac{x - 3}{3} = y + 11 \quad \text{where } y = -8$$

$$\text{Answer} = 12$$

2. In 1942, one of the first missions Captain Swarner and other American crews undertook was a bombing raid on Ploesti in Romania. Solve for  $x$  and draw a green line between the airbase in Egypt and the bombing location in Romania.

$$\frac{2x - 3y}{3} = 2 \quad \text{where } y \text{ is a whole number between } 6 \text{ and } 9$$

$$y = 6$$

$$x = 12$$

3. The bombing raid was a good first try, but failed to stop most of the fuel production for the Nazis. Several of the planes, including Captain Swarner's plane, The Boston Rambler, were hit by anti-aircraft fire and forced to land in Turkey. Solve for  $y$  and draw another green line from Ploesti to the crash site.

$$2(x + 9) = 5(-y + 11) \quad \text{where } x \text{ is a whole number longitude (vertical) line that runs through Turkey}$$

$$y = 1$$

$$x = 16$$

## Plotting the Rescue Assessment Answer Key cont.

4. After several months of internment by the Turkish military where the men were forced to train Turkish pilots and work on the planes, the men were able to escape in one of the planes. Using the equation below, solve for  $y$  to locate the country to which they escaped. Place a blue dot on the location and draw a blue line from internment to safety.

$$4x - 5x + 13 = \frac{12}{y}$$

where  $y$  is a whole number latitude line (horizontal) between -2 and -4

$$x = 16$$

$$y = -4$$

When the men left Turkey, they escaped to \_\_\_\_\_ Cyprus \_\_\_\_\_

5. The men were given several months to recover as the Allied liberation of North Africa continued. Captain Swarner and his men would then fly out of a new base, located closer to the Allies' next objective, Italy. Use the equation below and solve for  $y$  to find the new location of their base.

$$2(x - 3) = 9y - 5y \quad \text{where } x = -1$$

$$y = -2$$

From what country are Captain Swarner and his crew now flying? \_\_\_\_\_ Tunisia \_\_\_\_\_

## Plotting the Rescue Assessment Answer Key cont.

6. Captain Swarner and his men flew in the *Widdle Wed Wabbit* to bomb the German and Italian armies in Italy. Specifically they bombed Palermo, Sicily and Naples, Italy. Solve both equations for  $x$ , and label each city correctly. Draw one green line from Tunis to each of the cities.

Location Name	Equation	Coordinates
Palermo	$y - 2 = 4x - 7$ ( $y = -1$ )	(1, -1)
Naples	$4y = 3x - 4x + 10$ ( $y = 2$ )	(2, 2)

7. Captain Swarner's final mission was a bombing run over Sicily to the important position of Messina. Solve for  $y$  and label the city of Messina. Draw one red line from Tunis to Messina.

$$4x - 5 = 2y + 3x \quad \text{where } x = 3$$

Coordinates           (3, -1)

## Plotting the Rescue Assessment Answer Key cont.

8. Captain Swarner called in an S.O.S. after being attacked by German fighter planes. The plane was severely damaged and was reported disappearing into the ocean. Use the following data to plot on your map the location to send a rescue ship.

- The crash location was reported to be 100 miles northwest of Messina.
- Plug in your estimated coordinates into the following equation to check your answer.

$$5x - 10 = \frac{3y + 4y}{4}$$

Coordinates of Captain Swarner's Plane (2, 0)