

# Excel Practice Test TECH 1010

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Note: You **SHOULD** be able to complete this in one class period. 10% will be taken off if it is submitted outside of class time.

## **Sheet 1 – Sound:**

The distance traveled by sound in a given time is calculated by:

$$distance = velocity * time$$

Given that the velocity is 1126 ft/s or 343.2 m/s create a spreadsheet that calculates the distance traveled in both ft and m for times from 0 sec to 4 seconds in steps of 0.2 seconds.

Column A should be your time in seconds and Column B should be your distance traveled in feet and column C should be your distance traveled in meters.

Since the speed of sound can vary (with temperature and humidity), use cells B5 and C5 to calculate the distances at the various times.

The formulas should be able to be copied without alteration, so use \$ where appropriate.

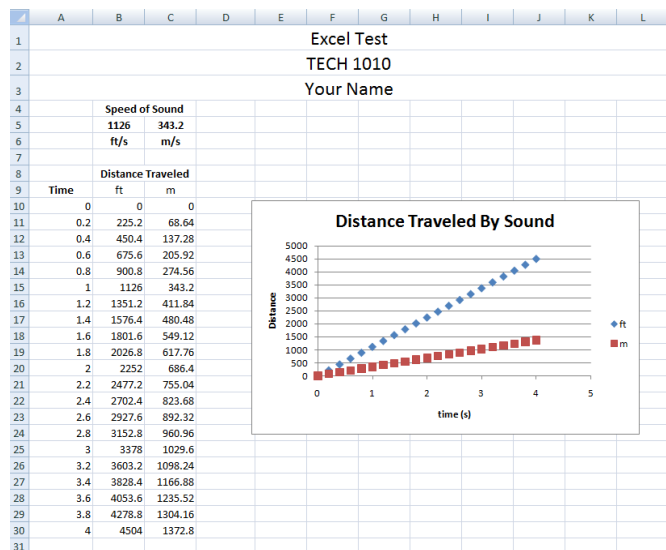
“Speed of sound” and “Distance Traveled” should be merged over appropriate cells. All units (ie ft/s, m/s, time, ft, m) should be bold and centered.

Plot the time vs distance graph on an XY Plot where X is time and Y is Distance.

The rename the sheet to “Sound”

Label the spreadsheet as shown below (Font Calibri 18). Make sure to use MERGE to center the headings.

The final sheet should look similar to:



Set the sheet to print Landscape and on one sheet (Centered on the sheet vertically and horizontally).

**Sheet 2 -Temperature**

Given the values of 3 temperatures in °F (32, 70,212) calculate the equivalent Temperature in °C, °K, and °R as follows:

**Fahrenheit temperature conversion formulae**

	from Fahrenheit	to Fahrenheit
<b>Celsius</b>	$[^{\circ}\text{C}] = ([^{\circ}\text{F}] - 32) \times \frac{5}{9}$	$[^{\circ}\text{F}] = [^{\circ}\text{C}] \times \frac{9}{5} + 32$
<b>Kelvin</b>	$[\text{K}] = ([^{\circ}\text{F}] + 459.67) \times \frac{5}{9}$	$[^{\circ}\text{F}] = [\text{K}] \times \frac{9}{5} - 459.67$
<b>Rankine</b>	$[^{\circ}\text{R}] = [^{\circ}\text{F}] + 459.67$	$[^{\circ}\text{F}] = [^{\circ}\text{R}] - 459.67$
For temperature <i>intervals</i> rather than specific temperatures, $1\ ^{\circ}\text{F} = 1\ ^{\circ}\text{R} = \frac{5}{9}\ ^{\circ}\text{C} = \frac{5}{9}\ \text{K}$ <small>Comparisons among various temperature scales</small>		

Column A should be your 3 values in °F. Column B should be the calculated °C (feel free to use the formula given or an excel function for this value). Column C should be your °K (feel free to use the formula given or an excel function for this value). Column D should be °Ra (use the formula provided above since no function is available in excel)

Spreadsheet should look like:

	A	B	C	D	E
1	<b>Excel Test</b>				
2	<b>TECH 1010</b>				
3	<b>Your Name</b>				
4					
5	<b>Deg F</b>	<b>Deg C</b>	<b>Deg K</b>	<b>Deg Ra</b>	
6					
7	32	0	273.15	491.67	
8	70	21.11111	294.2611	529.67	
9	212	100	373.15	671.67	
10					
11					

All column headings are bold and centered.

Label the spreadsheet as shown (Font Calibri 11 BOLD). Make sure to use MERGE to center the headings.

Sheet should be renamed as “Temp”.

Set the sheet to print Portrait at 100% (Centered on the sheet horizontally but NOT vertically).

### Sheet 3 – Pay

Generate the spreadsheet as follows:

	A	B	C	D	E	
1	Excel Test					
2	TECH 1010					
3	Your Name					
4						
5						
6						
7	<b>Employee #</b>	<b>Name</b>	<b>Hours Worked</b>	<b>Hourly Rate</b>	<b>Pay</b>	
8						
9	1001	Fred Smith	38	\$ 32.00	\$1,216.00	
10	2040	Tom Jones	22	\$ 25.00	\$ 550.00	
11	1050	Sam McGee	45	\$ 15.00	\$ 675.00	
12	1439	Joe Thompson	50	\$ 14.00	\$ 700.00	
13	1123	Dilbert	41	\$ 39.00	\$1,599.00	
14						
15						
16						

All column headings should be BOLD and centered in cell. Cell widths should be adjusted to fit the largest text in the column. All dollar amounts should be formatted as such.

The employee's pay should be **calculated**:

$$Pay = HoursWorked * HourlyRate$$

Label the spreadsheet as shown (Font Calibri 11 BOLD). Make sure to use MERGE to center the headings.

Sort the sheet by hours worked

Sheet should be renamed as "pay".

Set the sheet to print Portrait and on one sheet (Centered on the sheet horizontally but NOT vertically).