

## Microsoft Excel 2016

## Benjamas Panyangam and Dr. Dussadee Praserttitipong

Adapted in English by Prakarn Unachak

## 1. Excel Basics

2. Calculation and Formula

## 3. Charts

## 4. Other Spreadsheet Works on

 Excel
## 4. Other Spreadsheet Works on Excel

1) Sorting
2) Filtering
3) Basic Data Analysis

- Preparing Tools for Data

Analysis

The following files are used in this slide.

Grading Example:
https://goo.gl/iPheGL
Survey Example:
https://goo.gl/gXnkP8

- Analyzing Frequency of the Data
- Using Descriptive Statistics

4) Conditional Formatting

### 4.1 Sorting

## We'll use the following score data as an example

|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 1 | 90 | A |
| 3 | 2 | 67 | C |
| 4 | 3 | 76 | B |
| 5 | 4 | 60 | C |
| 6 | 5 | 53 | D |
| 7 | 6 | 74 | B |
| 8 | 7 | 69 | C |
| 9 | 8 | 77 | B |
| 10 | 9 | 57 | D |
| 11 | 10 | 99 | A |
| 12 | 11 | 59 | D |
| 13 | 12 | 75 | B |
| 14 | 13 | 51 | D |
| 15 | 14 | 59 | D |
| 16 | 15 | 92 | A |
| 17 | 16 | 77 | B |
| 18 | 17 | 47 | F |
| 19 | 18 | 98 | A |
| 20 | 19 | 59 | D |
| 21 | 20 | 76 | B |
| 22 | 21 | 61 | C |
| 23 | 22 | 58 | D |
| 24 | 23 | 79 | B |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |
| 28 | 27 | 61 | C |
| 29 | 28 | 59 | D |
| 30 | 29 | 82 | A |
|  |  |  |  |

We want to sort the data, first by Grade (Smallest (A) to Largest (B)), and if grades are equal, we then sort by Score (Largest (100) to Smallest (0))


We need to sort by 2 conditions, in this order:

1) Sort by Grade, from smallest to largest
2) Then by Score, from largest to smallest

|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 10 | 99 | A |
| 3 | 18 | 98 | A |
| 4 | 15 | 92 | A |
| 5 | 58 | 91 | A |
| 6 | 1 | 90 | A |
| 7 | 68 | 90 | A |
| 8 | 55 | 89 | A |
| 9 | 32 | 88 | A |
| 10 | 47 | 84 | A |
| 11 | 29 | 82 | A |
| 12 | 49 | 82 | A |
| 13 | 69 | 82 | A |
| 14 | 67 | 81 | A |
| 15 | 23 | 79 | B |
| 16 | 34 | 78 | B |
| 17 | 35 | 78 | B |
| 18 | 8 | 77 | B |
| 19 | 16 | 77 | B |
| 20 | 64 | 77 | B |
| 21 | 3 | 76 | B |
| 22 | 20 | 76 | B |
| 23 | 12 | 75 | B |
| 24 | 6 | 74 | B |
| 25 | 41 | 74 | B |
| 26 | 38 | 72 | B |
| 27 | 50 | 72 | B |
| 28 | 59 | 72 | B |
| 29 | 63 | 70 | B |
| 30 | 7 | 69 | C |
|  |  |  |  |

### 4.1 Sorting

## Steps in Sorting

(1) Select the data range to be sorted

By drag the mouse to cover the range of the
data
OR
just click select column A, B and C
OR
Click cell A1, press

1. Ctrl-Shift- $\longrightarrow$
2. Then Ctrl-Shift- $\downarrow$

This should select the entire block of data

|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 1 | 90 | A |
| 3 | 2 | 67 | C |
| 4 | 3 | 76 | B |
| 5 | 4 | 60 | C |
| 6 | 5 | 53 | D |
| 7 | 6 | 74 | B |
| 8 | 7 | 69 | C |
| 9 | 8 | 77 | B |
| 10 | 9 | 57 | D |
| 11 | 10 | 99 | A |
| 12 | 11 | 59 | D |
| 13 | 12 | 75 | B |
| 14 | 13 | 51 | D |
| 15 | 14 | 59 | D |
| 16 | 15 | 92 | A |
| 17 | 16 | 77 | B |
| 18 | 17 | 47 | F |
| 19 | 18 | 98 | A |
| 20 | 19 | 59 | D |
| 21 | 20 | 76 | B |
| 22 | 21 | 61 | C |
| 23 | 22 | 58 | D |
| 24 | 23 | 79 | B |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |
| 28 | 27 | 61 | C |
| 29 | 28 | 59 | D |
| 30 | 29 | 82 | A |

### 4.1 Sorting

Steps in Sorting (cont.)
(2) Under Data tab $\longrightarrow$ Sort \& Filter group, click Sort

$\underset{Z}{A} \downarrow$ - Sort by first column, from smallest to largest
$Z$
$A$
■ Sort by first column, from largest to smallest
$\overline{|z| A \mid}$
Sort ■ Define how you want to sort

### 4.1 Sorting

Steps in Sorting (cont.)
Sorting by Your Own Conditions
(3) Select the column to be consider first (Sort by)

(3.1) Sort By: We will set the main column to be Grade
(3.2) Order: We will sort from Smallest grade (A) to Largest grade (F)

### 4.1 Sorting

Steps in Sorting (cont.)
Sorting by Your Own Conditions
(4) Click Add Level to define secondary (tie-breaking) column (Then by)

(4.1) Then By: We will set the main column to be Score
(4.2) Order: We will sort the rows with equal grade from Largest to Smallest

### 4.1 Sorting

## The Result

We want to sort the data, first by Grade (Smallest (A) to Largest (B)), and if grades are equal, we then sort by Score (Largest (100) to Smallest (0))


|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 10 | 99 | A |
| 3 | 18 | 98 | A |
| 4 | 15 | 92 | A |
| 5 | 58 | 91 | A |
| 6 | 1 | 90 | A |
| 7 | 68 | 90 | A |
| 8 | 55 | 89 | A |
| 9 | 32 | 88 | A |
| 10 | 47 | 84 | A |
| 11 | 29 | 82 | A |
| 12 | 49 | 82 | A |
| 13 | 69 | 82 | A |
| 14 | 67 | 81 | A |
| 15 | 23 | 79 | B |
| 16 | 34 | 78 | B |
| 17 | 35 | 78 | B |
| 18 | 8 | 77 | B |
| 19 | 16 | 77 | B |
| 20 | 64 | 77 | B |
| 21 | 3 | 76 | B |
| 22 | 20 | 76 | B |
| 23 | 12 | 75 | B |
| 24 | 6 | 74 | B |
| 25 | 41 | 74 | B |
| 26 | 38 | 72 | B |
| 27 | 50 | 72 | B |
| 28 | 59 | 72 | B |
| 29 | 63 | 70 | B |
| 30 | 7 | 69 | C |
|  |  |  |  |

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COMPUTER SCIENCE DEPARTMENT, CMU
คณะว๊ทยาศาส๓ร์ แหาวิกยาลัยเช็ยงใหบ่

### 4.2 Filtering

|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 1 | 90 | A |
| 3 | 2 | 67 | C |
| 4 | 3 | 76 | B |
| 5 | 4 | 60 | C |
| 6 | 5 | 53 | D |
| 7 | 6 | 74 | B |
| 8 | 7 | 69 | C |
| 9 | 8 | 77 | B |
| 10 | 9 | 57 | D |
| 11 | 10 | 99 | A |
| 12 | 11 | 59 | D |
| 13 | 12 | 75 | B |
| 14 | 13 | 51 | D |
| 15 | 14 | 59 | D |
| 16 | 15 | 92 | A |
| 17 | 16 | 77 | B |
| 18 | 17 | 47 | F |
| 19 | 18 | 98 | A |
| 20 | 19 | 59 | D |
| 21 | 20 | 76 | B |
| 22 | 21 | 61 | C |
| 23 | 22 | 58 | D |
| 24 | 23 | 79 | B |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |
| 28 | 27 | 61 | C |
| 29 | 28 | 59 | D |
| 30 | 29 | 82 | A |

Filtering is limiting rows to be displayed to only those that match a certain condition


### 4.2 Filtering

## 1) Using Filtering

Under Data tab, select Filter command
Filter (and sorting) tools will appear



### 4.2 Filtering

2) Example: Filter the rows to only those with grade $B$

(1) Click the $\nabla$ button at Grade header (Cell C1)

(2) Check $\checkmark$ Only

Grade B
(3) Click OK

|  | A | B | C |  |
| :---: | :---: | :---: | :---: | :---: |
| 1 | No. | - | Score | Grad $\boldsymbol{\epsilon} \mathbf{7}$ |
| 4 | 3 | 76 | B |  |
| 7 | 6 | 74 | B |  |
| 9 | 8 | 77 | B |  |
| 13 | 12 | 75 | B |  |
| 17 | 16 | 77 | B |  |
| 21 | 20 | 76 | B |  |
| 24 | 23 | 79 | B |  |
| 35 | 34 | 78 | B |  |
| 36 | 35 | 78 | B |  |
| 39 | 38 | 72 | B |  |
| 42 | 41 | 74 | B |  |
| 51 | 50 | 72 | B |  |
| 60 | 59 | 72 | B |  |
| 64 | 63 | 70 | B |  |
| 65 | 64 | 77 | B |  |
| 72 |  |  |  |  |
| 73 |  |  |  |  |

### 4.2 Filtering

## 3) 3 Ways to cancel filtering



(1) Under Data tab $\longrightarrow$

Sort \& Filter group, click Clear

OR (2) Click Clear Filter From "Grade"

OR (3) Check $\checkmark$ at (Select All), then click OK

### 4.2 Filtering

4) Example of using number filters to show only rows with score from 61 to 69.


### 4.2 Filtering

## 4) Example of using number filters (cont.)


(4) Click OK

The Result

| $\underline{1}$ | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. ${ }^{-}$ | Score ${ }^{\text {T }}$ | Grade - |
| 3 | 2 | 67 | C |
| 8 | 7 | 69 | C |
| 22 | 21 | 61 | C |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |
| 28 | 27 | 61 | C |
| 34 | 33 | 68 | C |
| 43 | 42 | 66 | C |
| 49 | 48 | 62 | C |
| 54 | 53 | 66 | C |
| 55 | 54 | 64 | C |
| 57 | 56 | 69 | C |
| 58 | 57 | 69 | C |
| 67 | 66 | 61 | C |

### 4.3 Basic Data Analysis

## Preparing Analysis ToolPak for Data Analysis in Excel

| Under File tab select | Exeloprions |  |  | ? |
| :---: | :---: | :---: | :---: | :---: |
|  | Geneal |  |  |  |
|  | Fomus |  |  |  |
| Options to activate the add-ins. | Poofing | andins |  |  |
|  | Sowe | Name. | Loation | type |
|  | Longuse | Nater | (2) Select Analysis ToolPak |  |
|  | Adaneed |  |  |  |  |
|  |  |  |  |  |
|  | Addims |  | C.i.fofoficelubem ilerooux | creaddidcomaddin |
|  |  | \|lait | ci.arotice Omice inc |  |
|  |  |  |  | XML Expansio COM Add-in COM Add-in |
|  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Disibeded hplationonded ins |  |  |
|  |  | Add-in: Analysis ToolPak <br> Publisher: Microsoft Corporation <br> Compatibility: No compatibility information available |  |  |
|  |  |  |  |  |  |  |  |
|  |  | Descripion |  |  |
| ากวิชาว̄nยาการกอบพิวเฺวร์ |  |  |  |  |
| คณะว̄กยาศาส๓ร์ แหาวักยาลัยเชียงใหน่ |  |  |  | ok Can |

## 4．3 Basic Data Analysis

## Preparing Analysis ToolPak for Data Analysis in Excel（cont．）

（4）Check $\sqrt{ }$ at
Analysis ToolPak


Under Data tab，Data
Analysis command
will appear

| File | Home Insert | Page Layout | Formulas | Data |  | iew | View | Tell m | Sign in | O＋ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Get External Data ${ }^{-}$ |  | Refresh All－ Connections | $A$  <br> $Z$  <br> $Z$ $A$ <br> Z $\downarrow$ Sort <br> Sort \＆ | Filter <br> Filter |  | $\xrightarrow[\substack{\text { Data } \\ \text { Tools }}]{\text { 目 }}$ | Forecast | 田圆 <br> Outline | Data Analysis |  |

### 4.3.1 Frequency Analysis with Histogram

1) Example of frequency analysis from survey response data

| Survey Example |
| :--- |
| Gender $\square$ |
| Age Range (1-3) |
| O1-20 yr. |
| O21-30 yr. |
| O31-60 yr. |
| Computer Proficiency (1-5) |
| ONeed improve in all area |
| ONeed improve in some area |
| OAdequate |
| Ogood |
| Overy Good |

(1) Preparing data in Excel

- Gender data is in the range of 1-2
- Age data is in the range of 1-3
- Proficiency data is in the range of 1-5

|  | A | B | C | D | E | F |
| :---: | :--- | :---: | :---: | :---: | :---: | :---: |
| 1 | Gender | 1 | 2 |  |  |  |
| 2 | Age | 1 | 2 | 3 |  |  |
| 3 | Proficiency | 1 | 2 | 3 | 4 | 5 |
| 4 |  |  |  |  |  |  |
| 5 | No. | Gender | Age | Proficiency |  |  |
| 6 | 1 | 1 | 1 | 5 |  |  |
| 7 | 2 | 1 | 2 | 5 | Response |  |
| 8 | 3 | 2 | 3 | 4 |  | data from 5 |
| 9 | 4 | 2 | 2 | 2 | datannn |  |
| 10 | 5 | 2 | 2 | 5 |  | respondents |

### 4.3.1 Frequency Analysis with Histogram

1) Example of frequency analysis from survey response data (cont.)
(2) Under Data tab, click Data Analysis

(3) Click Histogram

### 4.3.1 Frequency Analysis with Histogram

## 1) Example of frequency analysis from survey response data (cont.)



### 4.3.1 Frequency Analysis with Histogram

1) Example of frequency analysis from survey response data (cont.) - the Result


From the range of Age data (1-3), the frequency we get 5 responses are:

| Age | Number of Responses |
| :---: | :---: |
| $1(1-20 \mathrm{yr})$. | 1 |
| $2(21-30 \mathrm{yr})$. | 3 |
| $3(31-60 \mathrm{yr})$. | 1 |

### 4.3.1 Frequency Analysis with Histogram



### 4.3.1 Frequency Analysis with Histogram

2) Example of Frequency Analysis on score data in cells B2 to B71

| - | A | B | C | D | E | F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |  |  |  |
| 2 | 1 | 90 | A |  | Bin | Score |
| 3 | 2 | 67 | C |  | 0 | 49 |
| 4 | 3 | 76 | B |  | 50 | 65 |
| 5 | 4 | 60 | C |  | 66 | 79 |
| 6 | 5 | 53 | D |  | 80 | 100 |
| 7 | 6 | 74 | B |  |  |  |
| 8 | 7 | 69 | C |  |  |  |
| 9 | 8 | 77 | B |  |  |  |
| 10 | 9 | 57 | D |  |  |  |
| 11 | 10 | 99 | A |  |  |  |
| 12 | 11 | 59 | D |  |  |  |
| 13 | 12 | 75 | B |  |  |  |
| 14 | 13 | 51 | D |  |  |  |
| 15 | 14 | 59 | D |  |  |  |
| 16 | 15 | 92 | A |  |  |  |
| 17 | 16 | 77 | B |  |  |  |
| 18 | 17 | 47 | F |  |  |  |
| 19 | 18 | 98 | A |  |  |  |
| 20 | 19 | 59 | D |  |  |  |
| 21 | 20 | 76 | B |  |  |  |
| 22 | 21 | 61 | C |  |  |  |
| 23 | 22 | 58 | D |  |  |  |
| 24 | 23 | 79 | B |  |  |  |
| 25 | 24 | 66 | C |  |  |  |
| 26 | 25 | 61 | C |  |  |  |
| 27 | 26 | 62 | C |  |  |  |
| 28 | 27 | 61 | C |  |  |  |
| 29 | 28 | 59 | D |  |  |  |



### 4.3.1 Frequency Analysis with Histogram

2) Example of Frequency Analysis on score data in cells B2 to B71 (cont.)


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### 4.3.2 Data Analysis Using Descriptive Statistics

Descriptive Statistics is a set of statistics values used to describe or summary data of interest

Examples of statistics calculated by descriptive statistics

- Percentage
- Arithmetic mean (average)
- Standard deviation
- Variance


### 4.3.2 Data Analysis Using Descriptive Statistics

## Example: Preparing Descriptive Statistic for Score Data

(1) Select Data

| - | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 1 | 90 | A |
| 3 | 2 | 67 | C |
| 4 | 3 | 76 | B |
| 5 | 4 | 60 | C |
| 6 | 5 | 53 | D |
| 7 | 6 | 74 | B |
| 8 | 7 | 69 | C |
| 9 | 8 | 77 | B |
| 10 | 9 | 57 | D |
| 11 | 10 | 99 | A |
| 12 | 11 | 59 | D |
| 13 | 12 | 75 | B |
| 14 | 13 | 51 | D |
| 15 | 14 | 59 | D |
| 16 | 15 | 92 | A |
| 17 | 16 | 77 | B |
| 18 | 17 | 47 | F |
| 19 | 18 | 98 | A |
| 20 | 19 | 59 | D |
| 21 | 20 | 76 | B |
| 22 | 21 | 61 | C |
| 23 | 22 | 58 | D |
| 24 | 23 | 79 | B |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |

(2) Under Data tab, click Data Analysis

| File | Home Insert | Page Layout | Formulas | Data |  | w | View | ? Tell r | Sign in | O si |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Get External Data |  | Refresh All Connections | $A$  <br> $Z$  <br> $Z$ $A$ <br> $A$ $Z$ <br> Z $\downarrow \downarrow$ Sort <br> Sort 8 | Filter <br> Filter |  | $\xrightarrow[\substack{\text { Data } \\ \text { Tools. }}]{\text { 明 }}$ | Forecast | Outline | Data <br> Analy |  |



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### 4.3.2 Data Analysis Using Descriptive Statistics

## Example: Preparing Descriptive Statistic for Score Data (cont.)

|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 1 | 90 | A |
| 3 | 2 | 67 | C |
| 4 | 3 | 76 | B |
| 5 | 4 | 60 | C |
| 6 | 5 | 53 | D |
| 7 | 6 | 74 | B |
| 8 | 7 | 69 | C |
| 9 | 8 | 77 | B |
| 10 | 9 | 57 | D |
| 11 | 10 | 99 | A |
| 12 | 11 | 59 | D |
| 13 | 12 | 75 | B |
| 14 | 13 | 51 | D |
| 15 | 14 | 59 | D |
| 16 | 15 | 92 | A |
| 17 | 16 | 77 | B |
| 18 | 17 | 47 | F |
| 19 | 18 | 98 | A |
| 20 | 19 | 59 | D |
| 21 | 20 | 76 | B |
| 22 | 21 | 61 | C |
| 23 | 22 | 58 | D |
| 24 | 23 | 79 | B |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |



### 4.3.2 Data Analysis Using Descriptive Statistics

## Example: Preparing Descriptive Statistic for Score Data (cont.)

| 4 | A | B | C | D | E | F |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |  |  |  |  |
| 2 | 1 | 90 | A |  | Score |  | The Result |
| 3 | 2 | 67 | C |  |  |  |  |
| 4 | 3 | 76 | B |  | Mean | 66.26 |  |
| 5 | 4 | 60 | C |  | Standard Error | 1.823 |  |
| 6 | 5 | 53 | D |  | Median | 66 |  |
| 7 | 6 | 74 | B |  | Mode | 59 |  |
| 8 | 7 | 69 | C |  | Standard Deviation | 15.25 |  |
| 9 | 8 | 77 | B |  | Sample Variance | 232.5 |  |
| 10 | 9 | 57 | D |  | Kurtosis | -0 |  |
| 11 | 10 | 99 | A |  | Skewness | -0.08 |  |
| 12 | 11 | 59 | D |  | Range | 76 |  |
| 13 | 12 | 75 | B |  | Minimum | 23 |  |
| 14 | 13 | 51 | D |  | Maximum | 99 |  |
| 15 | 14 | 59 | D |  | Sum | 4638 |  |
| 16 | 15 | 92 | A |  | Count | 70 |  |
| 17 | 16 | 77 | B |  |  |  |  |
| 18 | 17 | 47 | F |  |  |  |  |
| 19 | 18 | 98 | A |  |  |  |  |
| 20 | 19 | 59 | D |  |  |  |  |
| 21 | 20 | 76 | B |  |  |  |  |
| 22 | 21 | 61 | C |  |  |  |  |
| 23 | 22 | 58 | D |  |  |  |  |

### 4.4 Conditional Formatting



You can use conditional formatting so that the cell will be formatted only when certain conditions are met.

- "Set cell text to red if the cell value is less than $\mathbf{5 0}$ "
- "Set cell fill color to blue and text to white if the cell value is " $A$ ""
- (Advance) "Set cell fill color to grey if cell is on odd row"


### 4.4 Conditional Formatting



## Steps in Conditional Formatting

1. Select cells you want to apply conditional formatting to.
2. Go to Home tab $\rightarrow$ Styles group $\rightarrow$ Conditional Formatting.
3. Select type of formatting you want.
4. Fill in threshold values, if needed.

### 4.4 Conditional Formatting

Types of Conditional Formatting

* Highlight certain cells
- Highlight cells rules - Highlight if condition is met.
- Top/bottom rules (top 10\% percentile, for example)
* Highlight cells in group/range
- Data bar
- Color scale
- Icon sets


### 4.4 Conditional Formatting

* Highlight Cells Rules



### 4.4 Conditional Formatting

## * Data Bar

Select cells, then select the type of data bar you want

| 6 | 4 | 2 | 9 | 10 | 9 | 4 | 10 | 8 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | 4 | 2 | 9 | 10 | 9 | 4 | 10 | 8 | 1 |

### 4.4 Conditional Formatting

* Example: Highlight score cell with score less than 50.

|  | A | B | C |
| :---: | :---: | :---: | :---: |
| 1 | No. | Score | Grade |
| 2 | 1 | 90 | A |
| 3 | 2 | 67 | C |
| 4 | 3 | 76 | B |
| 5 | 4 | 60 | C |
| 6 | 5 | 53 | D |
| 7 | 6 | 74 | B |
| 8 | 7 | 69 | C |
| 9 | 8 | 77 | B |
| 10 | 9 | 57 | D |
| 11 | 10 | 99 | A |
| 12 | 11 | 59 | D |
| 13 | 12 | 75 | B |
| 14 | 13 | 51 | D |
| 15 | 14 | 59 | D |
| 16 | 15 | 92 | A |
| 17 | 16 | 77 | B |
| 18 | 17 | 47 | F |
| 19 | 18 | 98 | A |
| 20 | 19 | 59 | D |
| 21 | 20 | 76 | B |
| 22 | 21 | 61 | C |
| 23 | 22 | 58 | D |
| 24 | 23 | 79 | B |
| 25 | 24 | 66 | C |
| 26 | 25 | 61 | C |
| 27 | 26 | 62 | C |
| 28 | 27 | 61 | C |
| 29 | 28 | 59 | D |
| 30 | 29 | 82 | A |
|  |  |  |  |



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