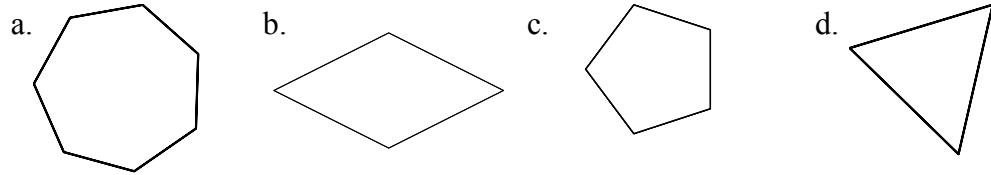


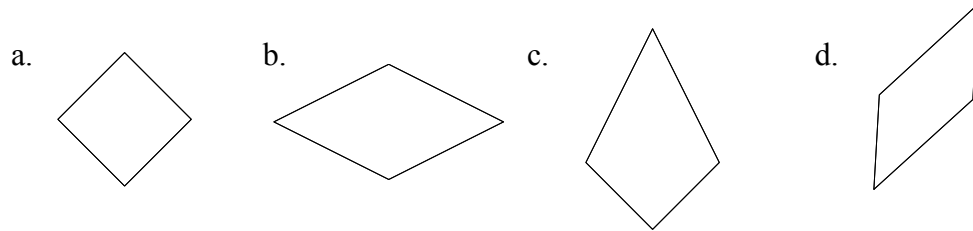
221. Order the polygons below in order from greatest number of sides to least number of sides.

Quadrilateral, hexagon, decagon, 15-gon, octagon, triangle, pentagon

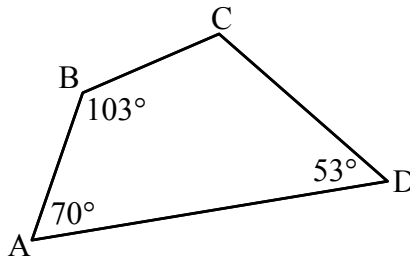
222. Which of the following is an irregular polygon?



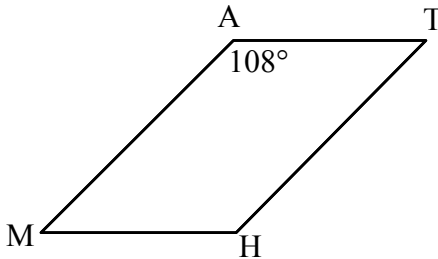
223. Which of the following is *not* a parallelogram?



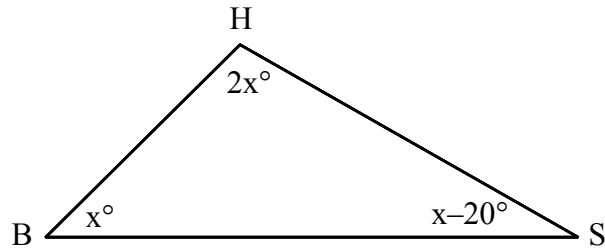
224. What is the measure of angle C in the quadrilateral below?



225. What is the measure of angle M in the parallelogram below?

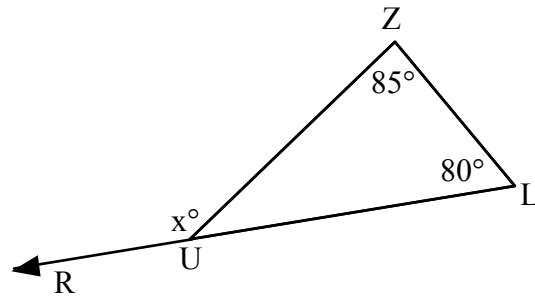


226. What is the measure of angle S in the triangle below?



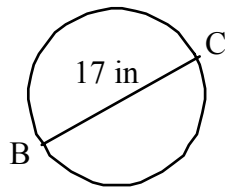
- a. 50° b. 20° c. 100° d. 30°

227. What is the value of x in the diagram below where angle RUL is straight?

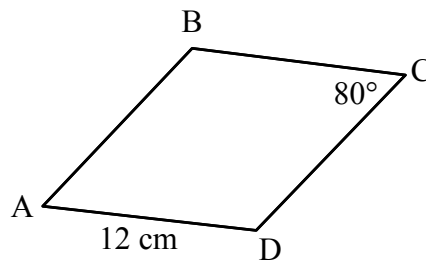


- a. 160° b. 15° c. 165° d. 85°

228. Determine the length of the radius in the circle below with diameter BC. Explain your reasoning.



229. Use the given measurements in the rhombus below to determine the length of AB and the measure of angle D. Explain your reasoning.



Math Performance Standard – Geometry A5.2.2

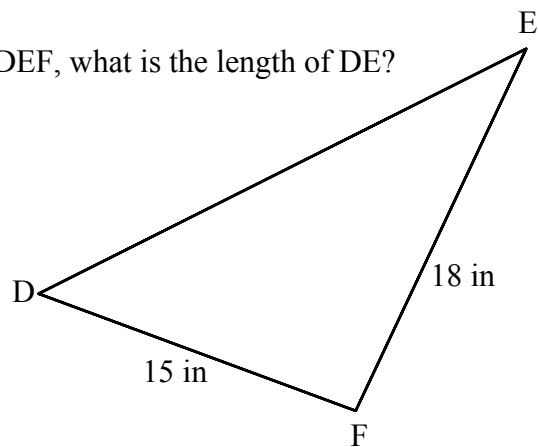
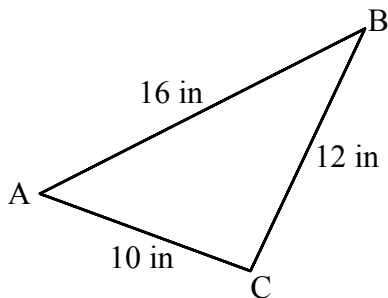
Comparing & Contrasting Figures

230. Compare and contrast a regular quadrilateral and a regular pentagon. Give a detailed response!
231. Compare and contrast a sphere and a circle. Give a detailed response!
232. Compare and contrast a square and a cube. Give a detailed response!
233. Compare and contrast a triangle and a triangular pyramid. Give a detailed response!
234. Describe the characteristics of a regular heptagon. Give a detailed response!
235. Describe a square pyramid. Use characteristics such as the number of edges and vertices as well as the number and types of faces it has.

Math Performance Standard – Geometry A5.3.3

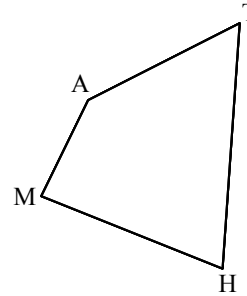
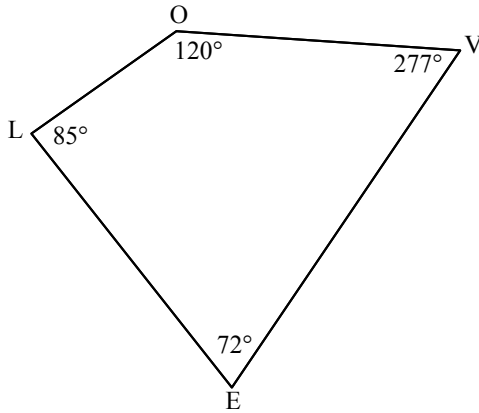
Applying Properties of Similar & Congruent Shapes

236. Given similar triangles ABC and DEF, what is the length of DE?



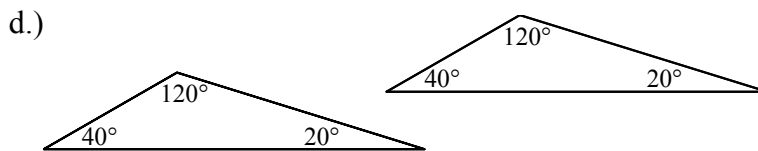
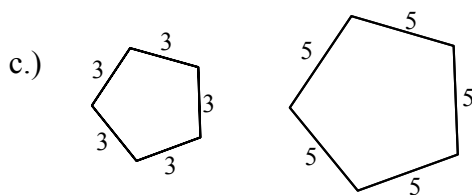
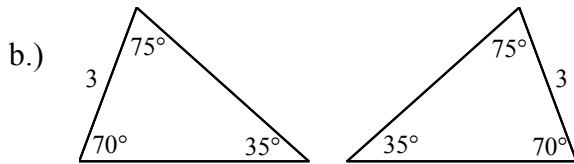
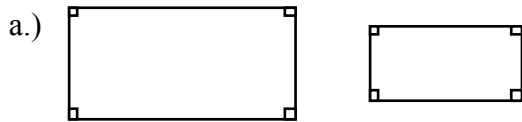
- a.) 16 in b.) 24 in c.) 22 in d.) 23 in

237. Quadrilaterals LOVE and MATH are similar. What is the measure of $\angle M$?

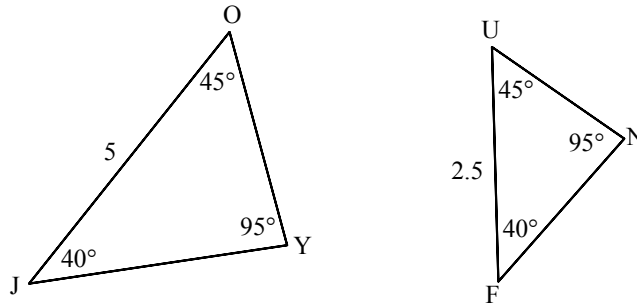


- a.) 85° b.) 120° c.) 72° d.) 105°

238. Identify the pair of congruent shapes.

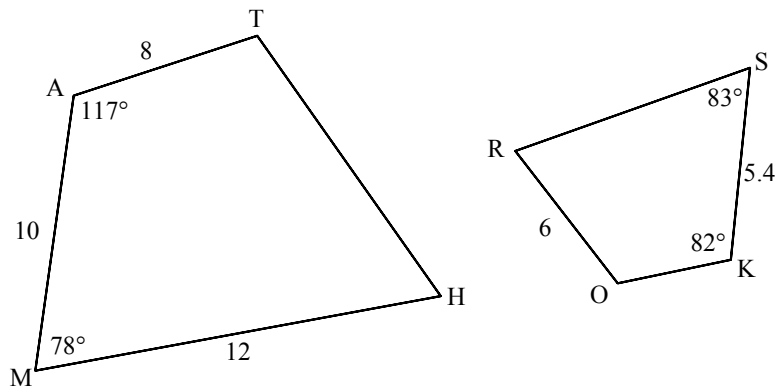


239. Identify the reason why triangles JOY and FUN are similar.

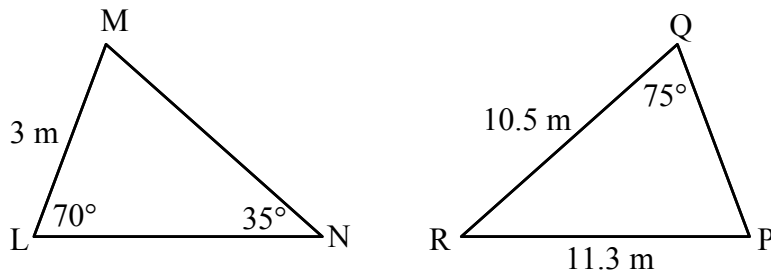


- a.) The angles of ΔJOY are congruent to the angles of ΔFUN .
- b.) ΔJOY and ΔFUN are the same shape and size.
- c.) They are both triangles.
- d.) The length of segment FU is half the length of segment JO

240. Quadrilaterals MATH and ROKS are similar. Determine the missing side and angle measures. Explain your reasoning.



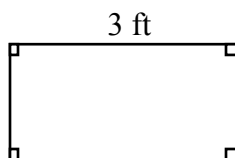
241. ΔLMN and ΔPQR are congruent. Determine the missing side and angle measures. Explain your reasoning.



Math Performance Standard – Geometry A5.3.4

Applying Perimeter, Area and Volume

242. Determine the area of a parallelogram with base 12 cm and height 14 cm.
- a.) 84 square cm b.) 52 square cm c.) 26 square cm d.) 168 square cm
243. Determine the volume of a sphere with radius length 9 cm.
- a.) $49\pi \text{ cm}^3$ b.) $972\pi \text{ cm}^3$ c.) $18\pi \text{ cm}^3$ d.) $12\pi \text{ cm}^3$
244. Given a circle with diameter length 9 cm, find the circumference and area of the circle. Show work!
245. The area of one face of a cube is 13 square feet. Determine the surface area of the cube. Show work!
246. The perimeter of the rectangle below is 14 feet. Determine the area. Show work!

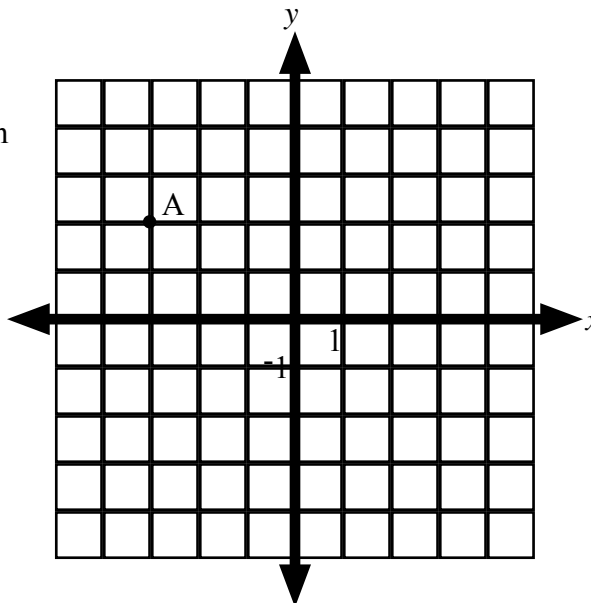


247. The radius of the base of a cylinder is 4 inches. The volume of the cylinder is 32π square inches. Determine the height of the cylinder. Show work!

Math Performance Standard – Geometry A5.2.6

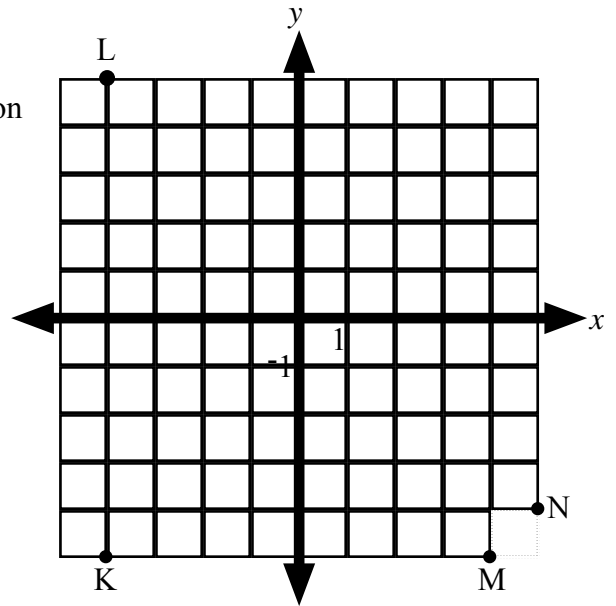
Describing Position & Direction

248. Identify the coordinates of A on the grid to the right.
- a.) (3, -2)
b.) (3, 2)
c.) (-3, 2)
d.) (-3, -2)



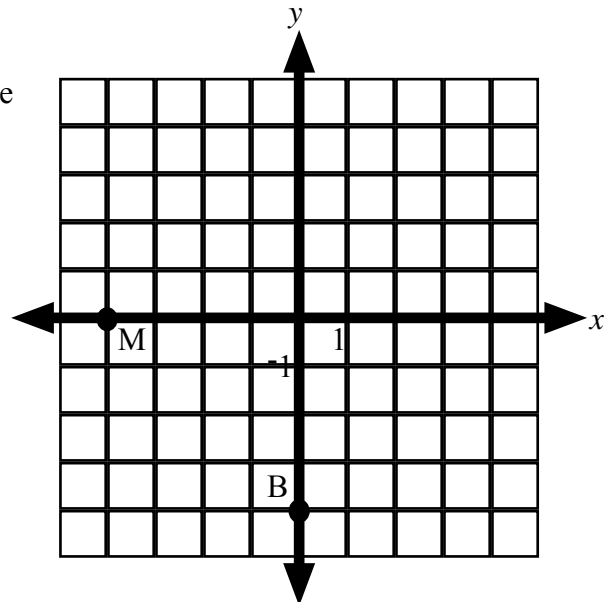
249. Which letter corresponds to the point $(4, -5)$ on the grid to the right.

- a.) K
- b.) L
- c.) M
- d.) N



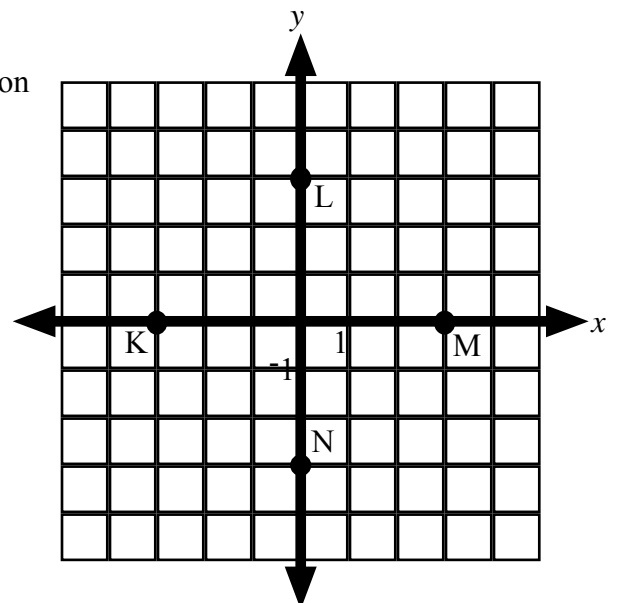
250. Identify the coordinates of B on the grid to the right.

- a.) $(0, -4)$
- b.) $(-4, 0)$
- c.) $(0, 4)$
- d.) $(4, 0)$

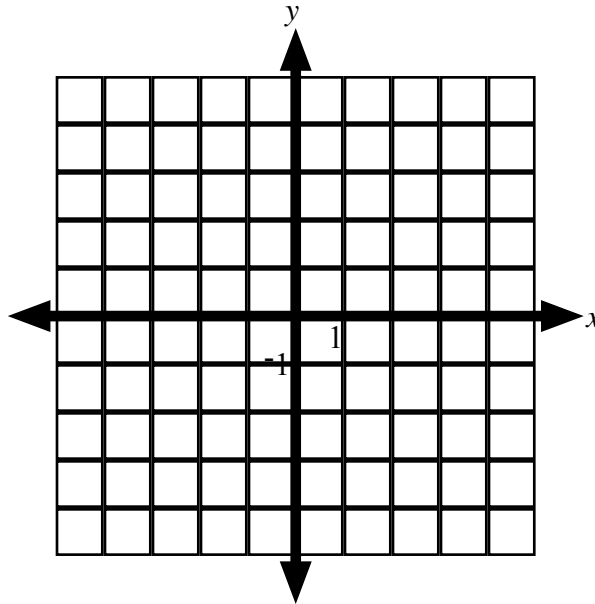


251. Which letter corresponds to the point $(-3, 0)$ on the grid to the right.

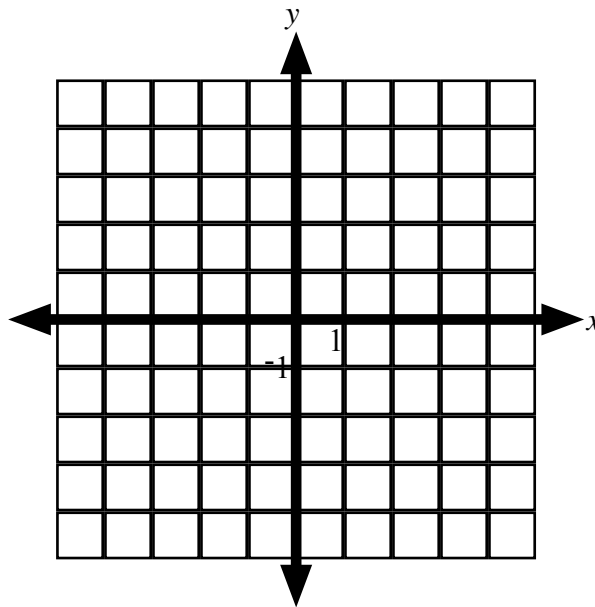
- a.) K
- b.) L
- c.) M
- d.) N



252. Plot the points A(-3, 5), B(4, 1), C(-2, -4) and D(1, -5) on the coordinate grid below.



253. Plot the points K(-5, 0), L(0, 1), M(3, 0) and N(0, -4) on the coordinate grid below.



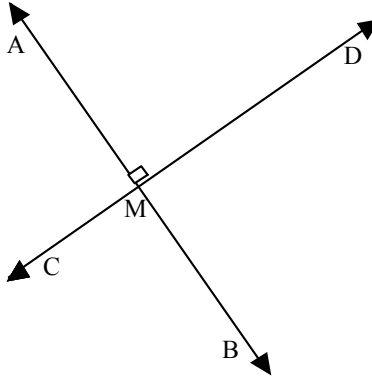
Math Performance Standard – Geometry A5.2.7

Drawing and Constructing Segments and Lines

254. Sketch line segment AB in the space below. Label its midpoint M.

255. Sketch line segment CD perpendicular to line EF.

256. In the picture below, what best describes the relationship between line AB and line CD.



- a.) They are parallel.
- b.) They are perpendicular
- c.) M is the midpoint of line AB
- d.) They are neither parallel nor perpendicular.

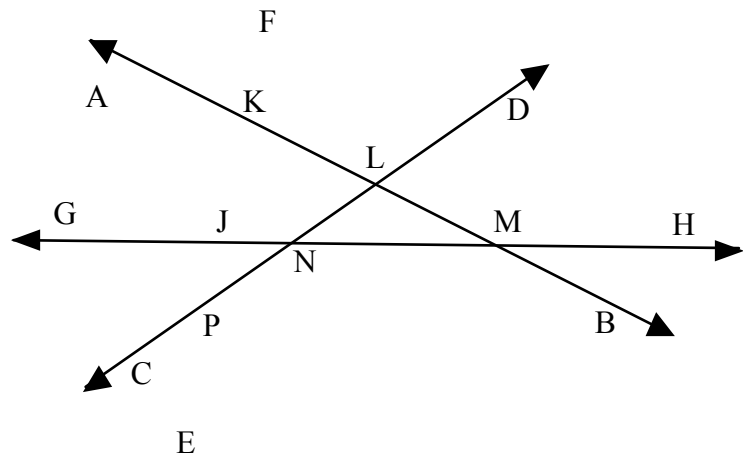
257. Measure the line segment below to the nearest half centimeter. Then locate and label the midpoint M of the segment.



258. Explain the difference between lines that are parallel and lines that are perpendicular. Use sketches in your response.

259. Use the diagram to the right to determine the point of intersection of line AB and line CD.

- a.) K
- b.) L
- c.) N
- d.) P



Math Performance Standard – Statistics and Probability A6.3.1

Analyzing & Displaying Data

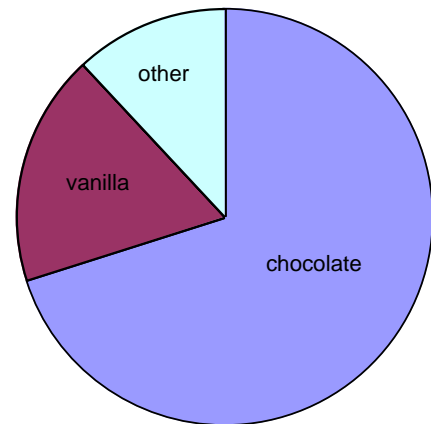
260. A high school social studies class wanted to find out how many siblings the typical student had. They collected and analyzed the data for their class. Here's what they discovered:

Number of Siblings	Number of Students
0	4
1	6
2	7
3	3
4	2
5	0
6	1

Create a histogram to display the data. Label and scale both axes.

261. Given the circle graph to the right, approximately what percent of the people represented in the graph prefer chocolate icecream?

- a.) 50%
- b.) 40%
- c.) 55%
- d.) 65%



262. Fifty people were surveyed regarding their favorite color. The results of the survey are listed in the table below.

Color	Number of People
Blue	20
Yellow	5
Green	12
Red	10
Purple	3

Create a circle graph to display the data. Label each section.

263. Fifty people were surveyed regarding their favorite color. The results of the survey are listed in the table below.

Color	Number of People
Blue	20
Yellow	5
Green	12
Red	10
Purple	3

Suppose this distribution continued for two hundred people. Use your estimation skills to determine the number of people whose favorite color is green. Show your work!

264. The U.S. National Center for Health Statistics provided the following statistics regarding the number of cases of diabetes in the U.S.

Year	1983	1985	1987	1989	1991	1993	1995	1997	1999
Cases (in millions)	5.6	6.1	6.6	6.4	7.2	7.8	8.7	10	10.8

According to the data in the table, which statement is accurate?

- a.) The smallest increase occurred between 1983 and 1985.
- b.) A reasonable estimate for the number of cases in 2001 would be 8.2 million.
- c.) The increase was consistent throughout the 16 years shown in the table.
- d.) The greatest increase occurred between 1995 and 1997.

272. Joe is on his school's bowling team. Below is a list of his first five scores:

110, 150, 165, 130, 150

Find the mean, median and mode scores for the data listed above. Show your work.

Mean: _____

Median: _____

Mode: _____

Determine which measure of central tendency best describes Joe's bowling performance and justify your reasoning.

273. Joe is on his school's bowling team. Below is a list of his first five scores:

110, 150, 165, 130, 150

Describe how his mean score would be affected if his sixth score was 145.

274. Joe is on his school's bowling team. Below is a list of his first five scores:

110, 150, 165, 130, 150

Describe how his median score would be affected if his sixth score was 145.

275. Joe is on his school's bowling team. Below is a list of his first five scores:

110, 150, 165, 130, 150

Describe how the mode score would be affected if his sixth score was 145.

276. Mary analyzed the set of temperatures in December for a one-week period:

32°, 40°, 36°, 27°, 32°, 17°, 12°

Which of the following interpretations of the data set is not accurate?

- a.) The median is equal to the mode.
- b.) The mean is 28°.
- c.) The median temperature is lower than the mean temperature.
- d.) The greatest temperature in this one-week period was 40°.

277. Fifty people were surveyed regarding their favorite color. The results of the survey are listed in the table below.

Color	Number of People
Blue	20
Yellow	5
Green	12
Red	10
Purple	3

Which of the following interpretations is accurate?

- a.) More people surveyed prefer green to any other color.
- b.) The least amount of people prefer the color yellow.
- c.) Twice as many people prefer red to blue.
- d.) One fourth as many people prefer yellow to blue.

Math Performance Standard – Statistics and Probability A6.3.4

Making Projections Based on Data

278. The U.S. National Center for Health Statistics provided the following statistics regarding the number of cases of diabetes in the U.S.

Year	1983	1985	1987	1989	1991	1993	1995	1997	1999
Cases (in millions)	5.6	6.1	6.6	6.4	7.2	7.8	8.7	10	10.8

According to the data in the table, which of the following projections is most reasonable?

- a.) A reasonable estimate for the number of cases in 2001 is 12.8 million.
 - b.) A reasonable estimate for the number of cases in 2001 is 8.2 million.
 - c.) A reasonable estimate for the number of cases in 1981 is 6.7 million.
 - d.) A reasonable estimate for the number of cases in 1998 is 11.2 million.
279. The stem-and-leaf plot below represents the numbers of portable CD-players sold per week at an electronics store during a 10-week period.

```
3 | 1
2 | 0 2 8 9
1 | 3 6 6
0 | 5 8
```

1 | 3 indicates 13 portable CD-players sold during a week

Assuming that the data in the stem-and-leaf plot is representative of the next 10-week period, which of the following projections is the least accurate?

- a.) There will be two weeks in which the store sells under ten players.
- b.) There will be at least one week in which the store sells over thirty players.
- c.) There will be at least one week in which the store sells over forty players.
- d.) During any given week, the store will most likely sell more than ten players.

Math Performance Standard – Statistics and Probability A6.1.5/6.2.6

Simple Probability

280. You are flipping two quarters. What is the number of outcomes for this event?
a.) 1 b.) 2 c.) 3 d.) 4
281. You are flipping three quarters. What is the number of outcomes for this event?
a.) 2 b.) 4 c.) 8 d.) 16
282. You are flipping two quarters. What is the number of occurrences of flipping either all tails or all heads?
a.) 0 b.) 1 c.) 2 d.) 4
283. You are flipping three quarters. What is the number of occurrences of flipping exactly two coins the same (exactly two heads or exactly two tails)?
a.) 2 b.) 6 c.) 7 d.) 8
284. You are flipping three quarters. What is the probability that you will get heads on all three coins?
a.) $1/4$ b.) $1/8$ c.) $1/16$ d.) $1/2$
285. You are flipping three quarters. What is the probability that you will get tails on two of them and a head on the other?
a.) $3/8$ b.) $1/8$ c.) $1/2$ d.) $1/4$
286. You are flipping three quarters. What is the probability that you will get at least two tails?
a.) $3/8$ b.) $1/8$ c.) $1/2$ d.) $1/4$
287. You roll a pair of standard six-sided dice. What is the probability you will roll an even sum?
a.) $18/36$ b.) $9/36$ c.) $1/4$ d.) $1/2$

288. You roll a pair of standard six-sided dice. What is the probability you will roll an odd product?

a.) $\frac{3}{4}$

b.) $\frac{1}{2}$

c.) $\frac{1}{6}$

d.) $\frac{1}{4}$

289. What is the probability of rolling a sum of six with a pair of standard six-sided dice? Show your work.

290. Two numbers are chosen at random from the list below.

1, 2, 3, 5, 6, 7, 8, 9

What is the probability that the two numbers will have a product of six? Show your work.

291. A card is chosen at random from a standard deck of 52 playing cards. What is the probability of choosing a face card (jack, queen, king)? Show your work.