1. Type of Art
   Pointillism is a type of art that is created by drawing numerous dots on paper. Watercolor paintings are created by combining paint and water to create different shades. Pottery is made by molding clay.
   Time to Create a Piece
   A pointillism piece that has dimensions of 12x18 takes on average 15 hours to create. A watercolor painting that is 17 x 23 takes on average 20 hours to create. A piece of pottery that has dimensions 6 x 2 x 4 takes 12 hours to create.
   Exposition
   An art school is holding an exposition to highlight their student artists. The school will commission their students to create new works of art specifically for the exposition. The exposition requires one-third of the artwork displayed to be watercolor paintings and one-fifth to be pottery pieces.
   Based on the given information, determine whether each of the statements is justified.
   I. There are 20 watercolor paintings, 12 pottery pieces, and 28 pointillism pieces in the art exposition.
   II. Students that will be featured in the school's exposition require no more than one day's notice.
   II. Timothy is known for his watercolor pieces and is expected to paint 4 for the school's exposition. Timothy can create all the pieces over the weekend (Saturday and Sunday).

select

I. Justified
II. Not justified
III. Not justified

select

I. Not justified
II. Justified
III. Justified

select

I. Justified
II. Not justified
III. Justified

select

I. Justified
II. Justified
III. Not Justified

select

I. Not Justified
II. Justified
III. Not justified

2. Email #1
   Email from wedding coordinator to bride and groom
   February 12, at 10:13am
   "The final headcount for booking the pavilion for the reception is today. Right now we have a rough estimate of 425 people. Is this still true and if so, do we know how many people will be having the chicken dinner?"
   Email #2
   Email from the bride to the wedding coordinator
   February 12, at 10:27am
   "We are still waiting on 40 invitations to RSVP; we gave a deadline of February 15. Is there a possibility for an extension to the 15th? Of the current 425 guests 375 have opted for the chicken dinner."
   Email #3
   Email from the wedding coordinator to the bride
   February 12, at 11:02am
   "I will reach out to the pavilion to see if an extension is possible and get back to you this afternoon. We can always assume for more since the pavilion does offer a refund if any changes are made at least one week prior to the wedding."
   Based on the given information in the emails, determine whether the statements are justified.
   I. The wedding coordinator is not willing to extend the guest headcount deadline.
   II. The bride does not have a specific, expected date to receive RSVPs.
   III. The wedding coordinator gives additional options to the bride in case the pavilion will not give an extension.

select

I. Not justified
II. Not justified
III. Justified

select

I. Justified
II. Justified
III. Not justified

select

I. Not justified
II. Justified
III. Not Justified

select

I. Not justified
II. Justified
III. Justified

select

I. Justified

II. Not justified
III. Justified

3. Techniques

At a gym there are three different paths an individual can take to obtaining membership. The first option is personal training. The second option is group fitness classes and the last option is individual direction. Members are only allowed to partake in individual direction after 5 personal training sessions and 10 group fitness classes.

Personnel

For personal training, there must be one trainer per individual. For group fitness classes there must be one trainer per eight individuals. For individual direction, no trainer is required; however, only 25 members can partake in individual direction at a time. At this particular gym there are 12 trainers.

Price

The price of membership depends on the technique the individual chooses. Personal training costs between $40 and $75 per session, depending on the trainer. Group fitness classes cost $20 per session. Individual direction costs $15 per visit.

Based on the given information, determine whether each of the statements is justified.

I. An individual who is experienced in fitness and has taken 3 group classes can choose to pay for the individual direction membership.

II. An individual who has a budget of $160 a month to spend on fitness after going through the personal training and group sessions can attend 8 classes per month.

III. Tina has completed all the necessary requirements to have an individual direction membership; Tina would make the 26th member of this type.

select

I. Justified
II. Justified
III. Not justified

select

I. Not justified
II. Justified
III. Justified

select

I. Justified
II. Not Justified
III. Not justified

select

I. Not justified
II. Justified
III. Not justified

select

I. Not justified

II. Not Justified
III. Justified

1. A high-school music department is putting together a two-day music festival to highlight the students' talents. The schedule for the two days will adhere to the following rules:
   1. Five musical performances are scheduled for each day.
   2. The majority of the performances on one of the days will be composed of woodwind instruments (clarinets, flutes, saxophones, oboes, or bassoons)
   3. The other day will primarily feature solo performances.

   Currently, 8 of the performances (4 each day) have been scheduled. The music department must add one additional performance on each day:
   Day 1
   Smooth Jazz Group (10th Grade, Saxophone Trio)
   Rock Your Socks Off (12th Grade, Vocal Group)
   Dustin & Karen (11th Grade, Flute Duo)
   James (11th Grade, Trumpet Solo)

   Day 2
   Adam (10th Grade, Vocal Solo)
   John (11th Grade, Clarinet Solo)
   Rachel (12th Grade, Brass Solo)
   4 Blind Mice (9th Grade, Woodwind Quartet)

   The music department must add one additional performance on each day.
   Based on the rules above, identify a performance that following:
   I. A performance that can be scheduled on either day.
   II. A performance that cannot be scheduled on either day.

select

I. Susan & Tina (12th Grade, Flute and Clarinet Duo)
II. James & Jimmy (10th Grade, Vocal Duo)

select

I. Susan (12th Grade, Flute Solo)
II. James & Jimmy (10th Grade, Vocal Duo)

select

I. Susan (12th Grade, Flute Solo)
II. Henry (12th Grade, Violin Solo)

select

I. Jenny & Molly (12th Grade, Flute Solo)
II. James & Jimmy (10th Grade, Vocal Duo)

select

I. Susan (12th Grade, Flute Solo)

II. Kimmy (10th Grade, Trumpet Solo)

2. Over a seven-year period, from 2002 to 2009, the number of babies born to married couples increased despite a decrease in marriages from 17,000 marriages in 2002.
In the given expression, B and M represent the percent change in the babies and marriages, respectively. I represents the number of babies per married couple in 2002. The percent change in a quantity is calculated by the formula:
$(X_{new}-X_{old}X_{old})\times 100$
Identify the following with the given information,
I. The expression that represents the number of babies born in 2002.
II. The expression of the number of babies born per family in 2009.

select

I. The expression that represents the number of babies born in 2002.
$17{,}000I$
II. The expression of the number of babies born per married couple in 2009.
$(100+B100+M)\times I$

select

I. The expression that represents the number of babies born in 2002.
$17{,}000I$
II. The expression of the number of babies born per married couple in 2009.
$(100-M100+B)\times I$

select

I. The expression that represents the number of babies born in 2002.
$17{,}000I$
II. The expression of the number of babies born per married couple in 2009.
$(100+M100+B)\times I$

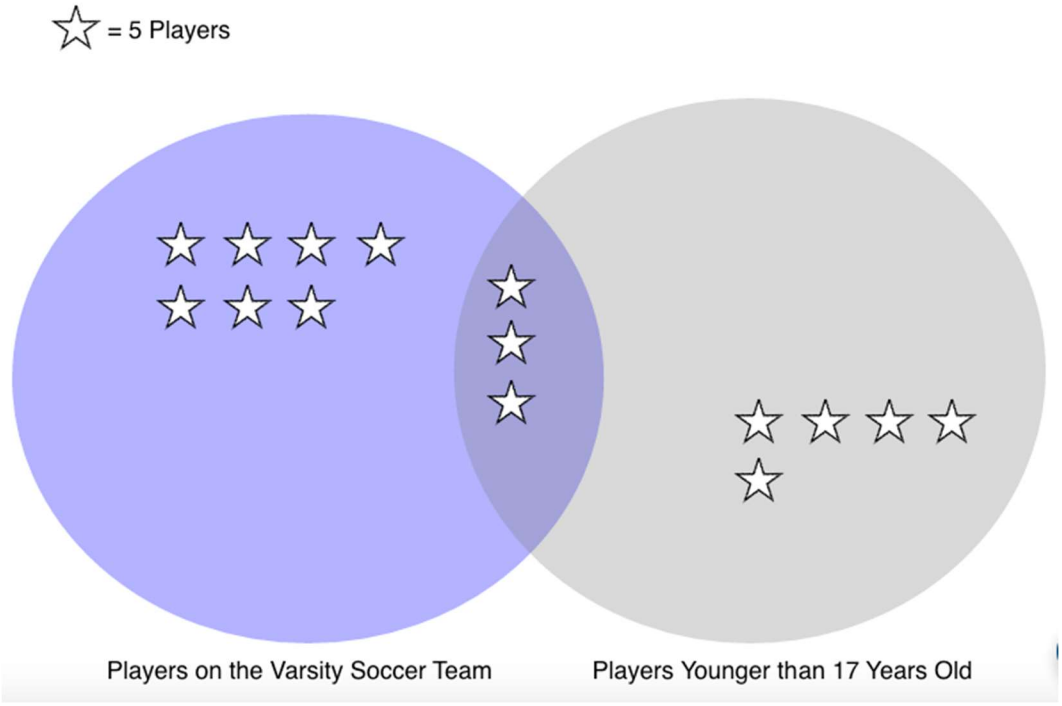
select

I. The expression that represents the number of babies born in 2002.
$17{,}000I$
II. The expression of the number of babies born per married couple in 2009.
$(100-B100+M)\times I$

select

I. The expression that represents the number of babies born in 2002.
$17{,}000I$
II. The expression of the number of babies born per married couple in 2009.
$(100+B100+M)\times I$

1.



Refer to the pictograph that describes all of the students who play soccer at Douglas High School. Each star represents 5 students from a sample of 75 total students.
Identify the missing information in the following statements using the pictograph.
I. If one student is selected at random from the 75, the chance that the student will be older than 17 or on the Varsity team, or both is _____.
II. If one student is selected at random from the 75, the chance that the students is both younger than 17 and on the Varsity Soccer Team is _____.

select

I. 2 out of 5
II. 2 out of 6

select

I. 2 out of 3
II. 1 out of 5

select

I. 1 out of 3
II. 1 out of 5

select

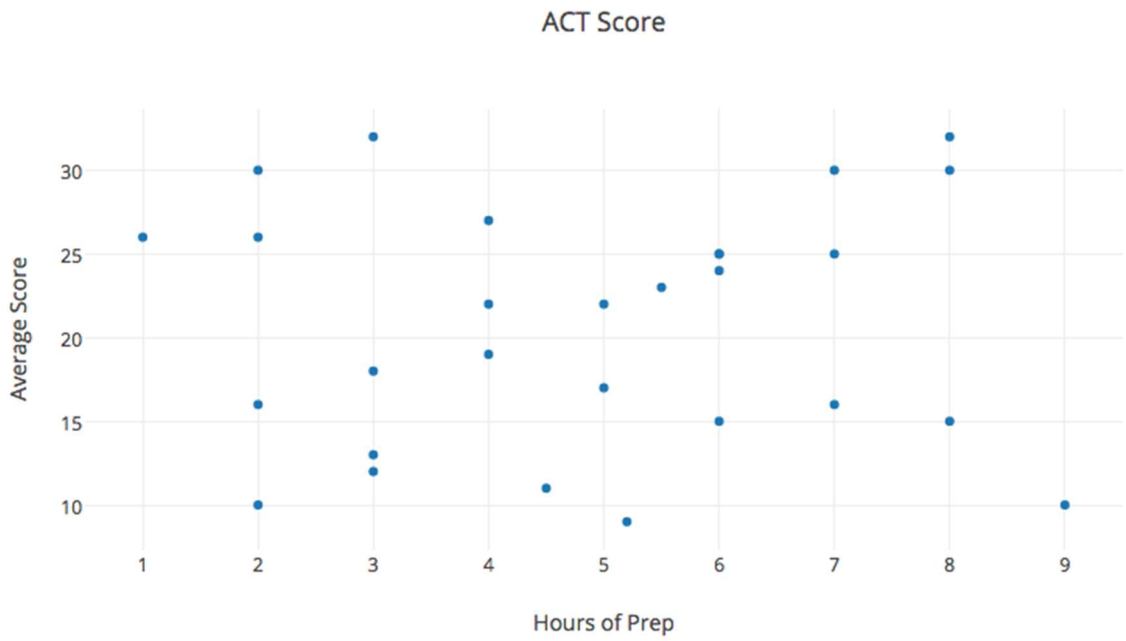
I. 2 out of 6
II. 2 out of 5

select

I. 1 out of 5

II. 2 out of 3

2
.



The graph depicts the hours prep time for students who took the ACT test and their corresponding average score.
Identify the missing information for the following statements using the graph.
I. The relationship between study time and test scores is _____.
II. The slope of the regression line is_____.

select

I. negative
II. positive

select

I. positive
II. positive

select

I. zero
II. non-applicable

select

I. zero
II. positive

select

I. positive
II. not determined