

Appendix A: Scenarios and sentences appearing in Experiment 1

1.1 Test Sentences

Object: [Comparative Quantifier (\pm partitive) / Numeral (\pm partitive)]

(1) 'One' in subject position

Last week, the local bike shop had two red tricycles, and both of them sold immediately – each one to a woman. This was a little surprising to the owner, because usually it's the dads who buy the tricycles in his shop. This week, the shop received a new shipment of five red tricycles. Based on last week's sales, the owner of the bike shop predicted that at least two red tricycles would be sold today, and that each one would be purchased by a woman, not a man. At 10 am this morning, a woman came to the shop, looked around, and bought a red tricycle for her son. At 11 am, another woman bought a red tricycle for her son, too. The owner of the bike shop began to wonder if his prediction was on target. At 2 pm, a man came in looking for a tricycle, but wanted a blue one, so he walked out without purchasing anything. At 4 pm, however, a woman came in by herself looking for a birthday present for her nephew. She tried to decide between a red tricycle and an orange scooter, and eventually bought a red tricycle. The owner was happy, because his predictions were right on. One woman bought [more than two (of the) / three (of the)] tricycles.

(2) Indefinite in subject position

A popular talk show host wanted to do a segment on physical fitness. She had an NBA basketball player appear on the show, and invited five audience members up on the stage to shoot hoops with him. The talk show host said that the audience members had to compete with the NBA player. The only catch was that he was going to be blindfolded! Once blindfolded, the basketball player took his first shot, but wasn't even close to making it! The second try was better, but the ball bounced off the backboard. The ball hit the rim on the third try. The player took a deep breath, set himself up, and made his last two shots— this time making them both. What a relief! Everyone assumed that the audience members might also have a difficult time, and would only be able to make two baskets total. However, the first and second audience members made their shots. Amazing! The third and fourth people didn't, though. Everyone held their breath for the fifth person—would she make it? She did! The NBA player was shocked the audience members did as well as they had, and gracefully admitted defeat. All of the participants got tickets to the next game as a prize.

An audience member made [more than two (of the) / three (of the)] baskets.

(3) Indefinite in subject position, Surface scope implausible

A convention for NY Times Bestsellers was being held in Gary, Indiana. Many VIPs were expected to come and stay in the city during the convention, so Officer Hendricks, Officer Wilson, and Officer Murray were assigned as guards to two hotels where the VIPs were staying. They were told to be at their posts in front of their assigned hotels at 9 am sharp. Initially, all of the VIPs were expected to stay at only two hotels, since the city didn't want to pay the fees for more locations. So Officer Hendricks and Officer Wilson were assigned to the Marriott, and Officer Murray was assigned to the Hyatt Regency. However, at the last minute, more VIPs decided to come, so a hasty arrangement was made to have some guests stay at the Embassy Suites hotel. The city officials knew that using more than two hotels would mean more fees, but they didn't care; this convention was going to bring in a lot of much-needed revenue for the city. Officer Wilson was instructed to proceed to the Embassy Suites. At 9 am, each guard was standing at his post.

A guard was posted in front of [more than two (of the) / three (of the)] hotels.

- (4) Indefinite in subject position, Surface scope implausible
 Emily was planning a dinner for her parents' 50th anniversary at a nearby restaurant. The staff set aside the back dining room for the event. She had asked them to place a centerpiece on each of the five tables in the room. The day of the event, Emily went to see how things were coming along. She was hoping that she could see at least a couple of the centerpieces in place. She was pleasantly surprised with what she saw. The staff was busy at work, and had already put a beautiful vase of roses on not one, not two, but three tables! And it looked like they were planning on setting out more shortly. This was going to be a wonderful anniversary dinner.
 A vase of roses graced [more than two (of the) / three (of the)] tables.
- (5) Negation
 In art class, the students were assigned to do projects for the school fundraiser. Each student was assigned six items to complete. Mary was assigned little wooden birdhouses, which she had to paint. John had to paint six toy boats. John was a diligent worker. He painted two boats before lunch, and two after lunch, leaving only two to paint the next day. He knew Mary was a slow painter and wondered how many she would leave for tomorrow. He suspected it would be more than he had. In the morning, Mary painted two birdhouses. But after lunch, she was tired and sluggish, and only got around to painting one more by the end of the day. She had to leave the rest for the next day.
 Mary didn't paint [more than two (of the) / three (of the)] birdhouses.
- (6) Negation
 Sarah's and Margaret's daughters were on the same dance team. The dance team was going to travel to a competition in California, so the moms decided to hold a bake sale to raise money for the trip. They each choose six different cake recipes to bake, and thought it was best to try them out first and make sure they were ready to sell. Each mom went to work baking and tasting her six cakes. Sarah was a pro. She baked four cakes in one day, tasted them, and thought they were very good. She baked her last two, tasted them, and congratulated herself with her success. Meanwhile, Margaret was working in her kitchen. She had to admit that it had been a long time since she had baked cakes, so she proceeded more cautiously. She chose the first cake recipe, baked the cake, tasted it, and thought it was all right. She continued to the second cake. She baked it, tasted it, and decided that it was okay, too, but not great. Worried about the time this was taking, she decided to work more quickly, hoping she could do more. She chose a third recipe. But this time she forgot the eggs. When she tasted the cake, she was discovered it was terrible. Margaret was really disappointed with herself and gave up baking for the day, leaving the rest of the cakes for tomorrow.
 Margaret didn't taste [more than two (of the) / three (of the)] cakes.
- (7) CQP in subject position
 A middle school teacher wanted to pick a book for summer reading, but he couldn't decide which one he should choose. So he picked five books and asked ten of his current students to choose a book among these. They could only select one book. Based on their selections, he would choose the book for summer reading for the incoming class. The five book choices were *Holes*, *Fantastic Mr. Fox*, *The Golden Compass*, *A Wrinkle in Time*, and *Little Women*. The teacher worried that the selections would be evenly distributed among the books. But that's not what happened. After the students made their selections, he found out that four chose *Fantastic Mr. Fox*, three chose *Holes*, and three chose *Little Women*. Surprisingly, no one chose *The Golden Compass* or *A Wrinkle in Time*.
 More than two students selected [more than two (of the) / three (of the)] books.

1.2 Control Sentences (Scopal Interaction) Truth value with scope

- (8) $a > \pm\text{CQP True}, \pm\text{CQP} > a \text{ True}$

The children in Mr. Wilson's class were going to decorate some boxes to deliver their valentines. There were five boxes to decorate. Mr. Wilson didn't anticipate that any boys would be eager to decorate the boxes. He thought a boy would decorate one or two at most—and do it reluctantly. Little did he know that Michael had been looking forward to this all month, and had come to school equipped with stickers, ribbons, and bows! When it was time to decorate, Michael eagerly volunteered to decorate. He set to work on one box, and covered it with bows and stickers. He then turned to a second box and did the same. Just when Mr. Wilson thought he was done, Michael volunteered to do one more box, and went all out, covering it with bows, stickers, glitter, and sequins. Michael was very pleased with his work, and challenged a girl to do just as well with the remaining two boxes. This was going to be a great Valentine's Day!

A boy decorated [more than two (of the) / three (of the)] boxes.

- (9) $\text{every} > a \text{ True}, a > \text{every} \text{ False}$

The students in a film class were compiling information about previous winners at the Oscars, and were specifically interested in how successful African Americans had been in acting roles. They started naming the major categories of Oscar awards for acting and the African Americans they knew had won the awards. One student remembered that Denzel Washington had been nominated for five or six awards, but knew he had only won two (Best Actor and Best Supporting Actor). Another student mentioned that Jamie Foxx and Forest Whitaker had also won Best Actor. As for the women, a third student remembered that Halle Berry had won Best Actress, and that Jennifer Hudson had won Best Supporting Actress for her work in *Dreamgirls*.

An African American won every major Oscar for acting.

- (10) $\text{every} > a \text{ True}, a > \text{every} \text{ True}$

A group of teenage girls wanted to start their own band. They'd never been in a band before, but they had some musical expertise. Each of them needed to pick their instrument. They thought they'd start with a guitar, a bass, and drums. Annie had the most experience with these instruments. She played the drums for a little, then switched over to the guitar. She was tempted to stick with the guitar, but when she tried out the bass, she thought she'd stick with that instrument. Jessica went next. She knew she loved the drums, so she sat right down and started playing them. Hillary was last, but that was okay with her, since she loved the guitar. She picked it up and started playing it right away. They had a band! Now all they had to do was pick a name.

A girl played every instrument.

- (11) $\text{every} > a \text{ False}, a > \text{every} \text{ False}$

The Middle School teachers are hosting a big Career Day for their students. Each of the three teachers has to invite a guest to speak about his or her career. Ms. Granger thought about her choice, and decided to invite Dr. Greg Hammond, who is a pediatrician. Ms. Bailey had also wanted to invite him, but when she heard that Ms. Granger had invited him already, she didn't invite anyone. Ms. Allen had also considered Dr. Hammond, and then thought about Bob Montgomery, who owns his own organic café and has a farmer's market stand in the summer. She ended up inviting him. The middle school students were going to have an excellent group of Career Day speakers.

Every teacher invited a guest.

- (12) $\text{neg} > \text{three} \text{ True}, \text{three} > \text{neg} \text{ False}$

The local petting zoo has three new animals and they're allowing the public to visit and feed them. There is a goat, and two sheep. This morning, a kindergarten class is visiting the zoo. Little Timmy is happy to see the animals, but he is also very shy. He approaches the goat with an apple. The goat gobbles it right up, startling Timmy. He is uncertain about whether or not he wants to feed any more animals. But the zookeeper hands Timmy a handful of feed and encourages him to approach one of the sheep. Timmy holds out his hand to the sheep, and the sheep gobbles up the feed, licking Timmy's hand. Timmy decides he has had enough, and it is time to go wash his hands! He doesn't feed the second sheep.

Timmy didn't feed three animals.

1.3 Filler Sentences (Antecedent-Contained Deletion) Truth value with indexation

(13) True w/ either coindexing

The school choir is getting ready to perform their songs at the annual Winter Wonderland Holiday concert. Julie is very picky about Christmas songs and only likes to sing "Joy to the World," "Silver Bells," and "Carol of the Bells." But she knows that she will have to sing whatever song the choirmaster selects. When Julie finally sees the list of songs the choirmaster has selected, she is thrilled that her three favorite songs are among those selected. At the concert, she sings her heart out to each and every song. Happy holidays!

Julie_i sang every song she_i wanted to.

(14) False under either reading

Katy and her friend Faith were out shopping, and discovered a sale on dresses. They were so excited! They both picked out three dresses that they each wanted to try on, and handed these to the clerk to set up dressing rooms for them. Each girl had a very different style, and it was clear from the dresses they chose: Faith's choices were subtle and demure, while Katy's were vibrant and bold. Faith went into her dressing room and tried on the three dresses she picked out. After much consideration, she decided on one she really liked. In another dressing room, Katy tried out the three dresses she had selected, and found one that fit perfectly. Faith walked away with a great little beige dress, and Katy got a stunning red dress. Now all they needed was a place to wear them!

She_i tried on every dress that Katy_{*i/k} wanted to.

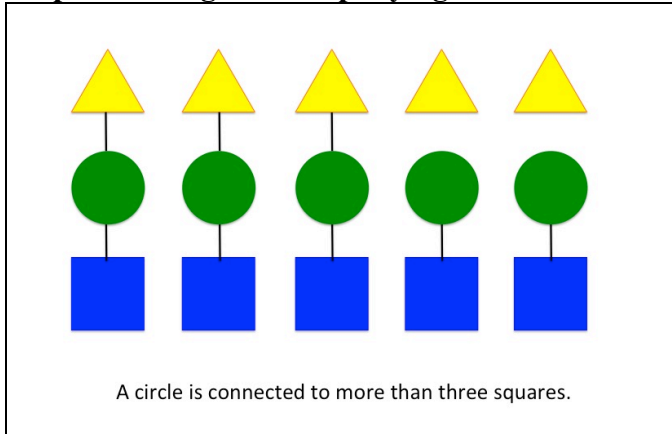
Appendix B: Templates of sentences appearing in Experiment 2

2.1 Template of Test Sentences

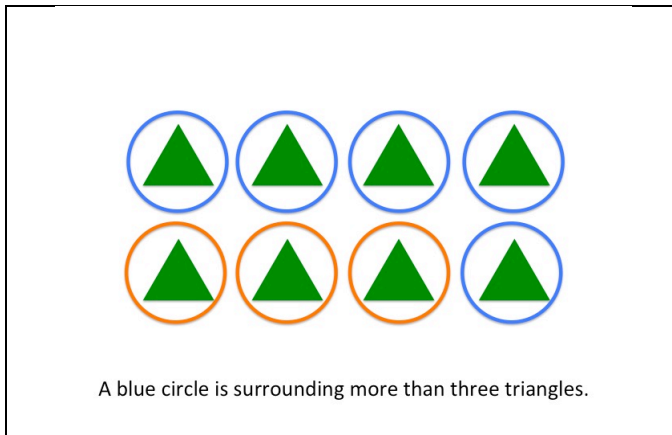
(15) [A/One] (adjective) [shape₁] [is surrounding/is connected to] more than three (of the) [shapes₂].

2.2 Examples of images accompanying test sentences

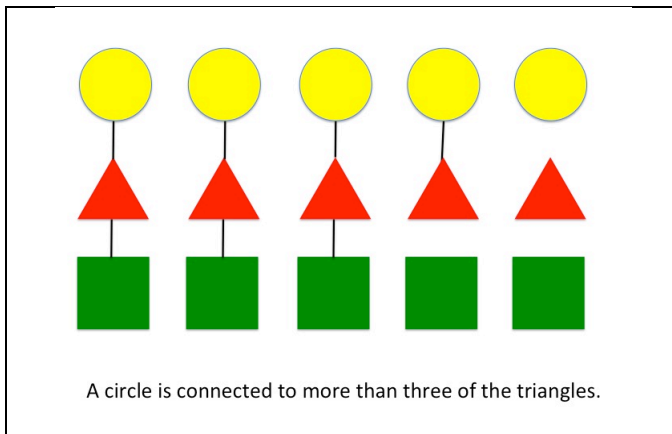
a.



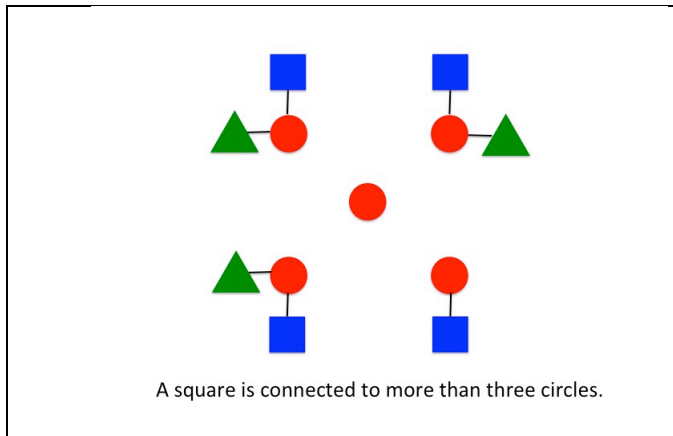
b.



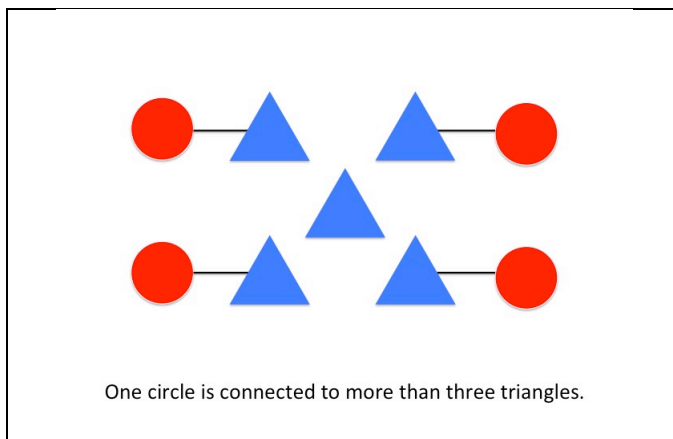
c.



d.



e.



2.3 Templates of Control Sentences and range of acceptance rates

At least (SS: T, IS: F)

(n=2, acceptance rates 93.3% each)

(16) At least [two/three] [shapes₁] are connected to a [shape₂].

Between n and n+2

(n=15, acceptance rates 0.0-6.9% for n below range, 73.3% each for n at lower end of range, 93.1-96.7% for n within range, 73.3-80.0% for n at upper end of range, 6.9-20.0% for n above range)¹

(17) Between [n and n+2] circles are [color].

CQP partitive in subject

(n=5, acceptance rate 83.3-96.7% when T (n=4), 10.0% when F (n=1))

(18) [More/Fewer] than [five/half] of the circles are [color].

Numerals and *respectively*

(n=2, acceptance rate 93.3% when T, 6.7% when F)

(19) Four [shapes₁] are connected to four [shapes₂], respectively.

Scopal ambiguity

(n=8, acceptance rates provided in footnote with distribution of items)²

(20) [A/One] [shape₁] is connected to every (color) [shape₂].

(21) [Two/three] [triangles/squares] are connected to every circle.

¹ Numbers included 2 and 4, 3 and 5, and 4 and 6; the number of target dots was less than, within, or greater than the target range.

² One *a, every* SS: F, IS: T (acceptance rate 56.7%), one *a, every* SS: T, IS: T (83.3%), two *one, every* SS: F, IS: T (66.7-72.4%), two *one, every* SS: T, IS: T (90.0-96.7%), two *numeral, every* SS: F, IS: T (96.7-100.0%), three CQP, *a* SS: T, IS: F (60.0-86.7%)

(22) More than three (color) [shapes₁] are [surrounding/connected to] a (color) [shape₂].

Appendix C: Scenarios and sentences appearing in Experiment 3

3.1 Test Sentences

- (23) Jackie has five nieces, Ann, Beatrice, Clarissa, Deborah, and Eleanor. While she was traveling in Japan, she stopped in Wakkanai, a fairly large northern city, and mailed Beatrice and Deborah a wooden doll each, and Ann, Clarissa, and Eleanor a kimono each.
I think that [a/one] kimono was mailed to more than two (of the) girls from one of Japan's northern cities.
- (24) Four fathers (Bernard, Charlie, David, and Edmund) took their children (Amelia, Betsy, Cindy, and Evan) to the park for a playdate yesterday. Charlie let his daughter Betsy play in the sandbox with the shovel and toy trucks. But Amelia, Cindy, and Evan saw three open swings, and begged their dads to push them in the swings, so Bernard, David, and Edmund pushed their children in the swings, and tried to see how high they could go.
I think that [a/one] parent let more than two (of the) children play in a swing yesterday at the park.
- (25) Four local pastry chefs were competing in a contest for the best wedding cake last night. The winner would have their cake featured in a big wedding, and pictured on the cover of Weddings Today. In the first stage of the contest, five tiered cakes were set out, and some of the chefs were invited to decorate them. The cake flavors were raspberry cream, strawberry cheesecake, lemon chiffon, French vanilla, and dark chocolate. Chef Nathan decorated the raspberry cream cake, Chef Olivier decorated the strawberry cheesecake, Chef Pierre decorated the lemon chiffon, while Chef Quincy had quit the contest because of a family emergency.
I think that [a/one] cake was decorated by more than two (of the) chefs at the local pastry contest last night.
- (26) Every year, the linguistics seniors and the philosophy seniors who are doing an honors thesis at the local university have to decide who is going to supervise their thesis, and there is a group of faculty members they usually choose for this purpose. But this year, it's tricky, because some of those faculty members are away visiting other places for their research. That leaves five possible thesis advisors. Three philosophy seniors (Lily, Alex, and Simone) independently chose Prof. Austen, Prof. Barclay, and Prof. Caldecott, all of whom are semanticists. The four linguistics seniors then made their choice. Jessica also chose Prof. Austen. Marlene chose Prof. Barclay, Olivia chose Prof. Caldecott, and Benjamin chose Prof. Cornwall, a syntactician whom no philosophy student had chosen.
I think that [a/one] semanticist advises more than three (of the) seniors this year at the local university.
- (27) Four copy editors, Gillian, David, Geoffrey, and Chris, were asked to practice their copy editing skills and locate ten mistakes in a book that was about to be published. They each read and made corrections independently of each other. Gillian caught four mistakes: one on page 20, another on page 63, a third on page 102, and a fourth on page 178. David and Geoffrey were only able to locate three mistakes: the one on page 20, the one on page 63 and a new one on page 200. Chris only found two mistakes: the one on page 200 and a new one on page 230.
I think that [a/one] copy editor located more than five (of the) mistakes in the book that was about to be published.
- (28) Three millionaires, Andrew, Lisa and William, and two billionaires, Butch and Candace, decided that they each wanted to vacation in a European city over the holidays this year. Andrew chose to vacation in Paris, France, Lisa chose to vacation

in Nice, France, William chose to vacation in Toulouse, France, Butch decided to vacation in Florence, Italy and Candace decided to vacation in Barcelona, Spain. I think that [a/one] French city was favored by more than two (of the) millionaires for the holiday vacation this year.

- (29) Two twin brothers Bob and Don have three girls each. Abby, Angela and Andrea are Bob's daughters, and Cassie, Charlotte and Clarissa are Don's daughters. For their family get-together last Saturday, they both bought popsicles for their daughters: Bob gave Abby a chocolate popsicle, Angela a vanilla popsicle and Andrea another chocolate popsicle. Don gave Cassie a fruit popsicle, Charlotte a chocolate popsicle and Clarissa a chocolate popsicle too. I think that [a/one] girl got more than three (of the) chocolate popsicles at the family get-together last Saturday.
- (30) Two fashion models, Violetta and Natalie, had to present five luxury dresses each, for a total of ten dresses, at the fashion show last Sunday. Violetta presented two gold-laced dresses, a silver-laced dress and two diamond-laced dresses. Natalie presented two gold-laced dresses, two silver-laced dresses and one diamond-laced dress. I think that [a/one] model presented more than three (of the) gold-laced dresses at the fashion show last Sunday.
- (31) Six young boys were playing a game at the county fair where they tried to toss rings on bowling pins to win a prize. They split up into two teams, and tossed red and green hoops onto the bowling pins. Adrian tossed a green hoop onto the third pin, and Brian tossed a green hoop onto the fifth bowling pin. Christopher tossed a red pin onto the first pin, Damian tossed a red hoop onto the second pin, Ernie tossed a red hoop onto the fourth pin. The green team thought they could even the score with the sixth pin when it was Frank's turn, but Frank accidentally chose a red hoop, and tossed it on the sixth pin, so the red team won. I think that [a/one] red hoop was tossed on more than three (of the) bowling pins at the county fair game.
- (32) Some of the university's researchers – a mix of linguists and anthropologists – were given the opportunity to apply for a small grant to learn a new language over the summer, if that would benefit their fieldwork. One of the linguists learned Mohawk, and another one learned American Sign Language. Four of the anthropologists were planning on working in Africa, so one learned Swahili, another learned Afrikaans, another learned Wolof, and the fourth one learned Yoruba—all well-known languages spoken in Africa. I think that [an/one] anthropologist learned more than three (of the) African languages as a consequence of the university's grant program.
- (33) A small village was encouraging people to 'shop local' over the Thanksgiving holidays. Six shops remained open over the weekend: a shoe store, a candle store, a kids toy store, a women's clothing store, a sporting goods store, and a pet supplies store. Each of the stores except for the pet supplies store offered customers a 50% coupon if they shopped there on Black Friday. I think that [a/one] 50% discount was offered at more than three (of the) local stores during the Thanksgiving holidays.
- (34) Six customers were in a hardware store last Saturday afternoon. They were all looking for supplies that would help them get ready for the winter season. Jeff and Tim were the two employees out on the floor that afternoon. Jeff helped Mrs. Peterson find snow shovels, showed Mr. Roper where the windshield de-icing fluid was, and helped Mrs. MacIntosh purchase snow salt for her driveway. Tim helped Mr. Lucas locate replacement flood lights, and Mrs. Carloff find the right kind of outdoor lights for her

Christmas decorations.

I think that [a/one] hardware store employee helped more than three (of the) customers last Saturday afternoon at the hardware store.

- (35) The fourth graders were doing their projects for the fall Annual Science Fair. The teachers suspected that at least three children would choose to do a botany project, and run an experiment with plants, looking at their growth in different conditions. Indeed, two girls in Mrs. Johnson's class and three girls in Mrs. Taylor's class chose to present a botany project. In contrast, they predicted the boys might like to look at the spread of germs and work with petri dishes. Sure enough, one boy in Mrs. Johnson's class looked at germs in the public restroom, another in Mrs. Taylor's class looked at germs on doorknobs, and a third in Mr. Bellfry's class chose to present on germ growth on the kitchen surface of the teacher's lounge.

I think that [a/one] project about botany was presented by more than three (of the) fourth-grade girls at the fall Annual Science Fair.

- (36) For the Mostly Mozart Festival, the National Symphony Orchestra in Washington and the Chicago Symphony Orchestra asked the members of their respective string sections to vote for their favorite piece by Bach, so the orchestras could put together a special podcast to celebrate his birthday. The violinists and cellists debated fiercely about their choices. One violinist chose the second Brandenburg Concerto, another violinist chose the Concerto for Oboe and Violins, a third violinist chose the fourth Brandenburg Concerto, and a fourth violinist chose the Concerto for two violins. The cellists, however, were of course drawn to the cello suites: one picked the first cello suite, another cellist picked the third, and another cellist picked the sixth cello suite. I think that [a/one] violinist selected more than three (of the) concertos for the podcast celebrating Bach's birthday.

- (37) In the weekly afternoon tutoring session offered by the public library, there is a responsible group of teenagers in the honors program who come in every Thursday to help younger children with their homework. Jonathan, Kristen, Lucy, and Mabel are really good in math, so they divided up and helped Amber, Julie, Jared, and Hope with their algebra. On the other hand, Vick, Wanda, Xavier, and Yaron are really good in language areas, so they divided up and helped Mitchell, Susie, Carlita, and Francis with their book reports. The younger students really benefitted from this assistance.

I think that [a/one] tutor assisted more than three (of the) students with their algebra at the weekly tutoring session.

- (38) There are a number of dogs that need to be walked each week in the Meandering Meadows neighborhood. Patty's Pet Companion covers that neighborhood, and Patty has a team of dog walkers who help her out. For example, on Tuesdays, there are five different dogs that need to be walked, and all at lunch time. Patty has four experienced dog walkers, and each of them walks a dog (a Bichon Frise, a Jack Russell, a yellow Labrador, and a Beagle). But Patty has to rely upon a fifth dog walker, who is new and much less experienced, to walk the German short-haired pointer at the end of the road.

I think that [an/one] experienced dog walker walks more than three (of the) dogs every Tuesday in the Meandering Meadows neighborhood.

3.2 'Every – Fewer than' Filler Sentences (SS: False, IS: True)

- (39) Dr. X came up with a fun game for his math students. He placed 100 red tokens in a large bowl. He then asked each of the students in his class to come up to the bowl, randomly select 15 of the tokens, initial each of them, and place them back in the bowl. After each student did this, he shuffled the tokens around in the bowl before the

next student's turn. After every student had a turn and had initialed 15 tokens each, Dr. X asked his class to think about how many tokens had each student's initials. He guessed himself that there might be 10 tokens that had every student's initials. One of the students then inspected all the tokens to see if he was right. When done inspecting, the student announced that 8 tokens had each set of student initials.

I think that every student initialed fewer than 10 of the tokens.

- (40) 10 TSA agents at one particular airport are required to undergo training every six months. The purpose of the training is to make sure the TSA agents can inspect IDs accurately and efficiently. As part of this process, their supervisor compiles a stack of 500 IDs, and asks each of the agents to randomly inspect 50 of those IDs and to do it carefully, but as quickly as possible. The supervisor gives them all 1 hour, and will check their progress at the end of this time. She hopes that at the end of the hour, at least 75 IDs will have been inspected by every single one of the 10 TSA agents. After one hour, the supervisor checks the IDs, and realizes her 'random inspection' method might not have been the best strategy. She sees that the TSA agents had each completed inspecting between 80 and 90 IDs, but only 63 IDs had been inspected in total. This was less than the 75 she had hoped for.

I think that every TSA agent inspected fewer than 75 of the IDs.

3.3 False Filler Sentences

- (41) Three art critics – Ryan, Don and Elizabeth – work for Oklahoma Weekly. Last week, there were two new exhibitions available for review, one in the art gallery of Oklahoma City and one in the Tulsa city museum. Ryan reviewed the exhibition in the art gallery while Don and Elizabeth reviewed the exhibition in the Tulsa city museum.

I think that three art critics at Oklahoma Weekly reviewed two exhibitions last week.

- (42) Last year, three students preparing for fieldwork had to learn one of two languages – Spanish or Portuguese. The first student learned Spanish, the second student learned Spanish and the third student learned Spanish too.

I think that three students preparing for fieldwork learned Spanish last year.

- (43) Leo and Harry went to a store outside of town to buy groceries. They bought two bottles of wine, three bottles of beer and one bag of chips.

I think that Leo and Harry bought alcohol at the store.

- (44) Liz and Helen are two young women who decided to vacation on an island with only three shops, a video store, a furniture shop and a grocery store. After checking in, Liz went to the video store, then she bought groceries and finally she went to the furniture store, while Helen stayed in her room.

I think that Helen stayed in her room and Liz went shopping.

- (45) Tom and Keith are two musicians who love jazz. They have a band in which they use bass, trumpet and xylophone. Tom can play bass and Keith can play all three instruments.

I think that someone in the band can play any of the three instruments.

- (46) Matt and Grant are two students studying at UC Irvine. Recently, they went to a store that had two discounted guitars, a Gibson and a Fender. Grant bought the Gibson and Matt bought the Fender.

I think that the shop sold the discounted guitars to Matt and Grant recently.

- (47) Alex went on a business trip last week and brought home three gifts, a coloring book, a musical table and a doll. He has three children, Bill, Theo and Jane. He brought the coloring book for Bill, the musical table for Theo and the doll for Jane.

I think that Alex bought a doll for one of his children while on his trip.

- (48) Last week at a dealership near a university campus, there were three used cars on the lot, a Honda, a Mazda and a Toyota. Three students – Tim, Olga and Natalie – needed to buy a car. The dealership sold the Honda to Tim, the Mazda to Olga and the Toyota to Natalie.
I think that the dealership sold used cars to three students last week.
- (49) Last week, three calculators were available at an electronics store, a Casio, an HP and a TI. Two accountants – Juliet and Jane – needed to buy a calculator and the store sold the Casio to Juliet, while Jane bought nothing.
I think that an accountant looking for a calculator bought one last week.
- (50) The commander of a small recon unit selected three handguns for the training session last week, a Smith 'n Wesson, a Colt and a Browning. There are three soldiers in the unit – Juan, Ron and Betty – and the commander assigned the Smith 'n Wesson to Juan, the Colt to Ron and the Browning to Betty.
I think that all the soldiers in the unit got a handgun from the commander.
- (51) A magazine had to review two books last week, a detective novel, and a historical novel. The magazine has three retirees as book reviewers, Benny, Theresa and Paul. The editor assigned the detective novel and the historical novel to Benny, and he did not assign anything to the other two reviewers.
I think that the editor assigned one or more novels to a retiree for review.
- (52) The kindergarten class was being visited by a man who works with wild animals. After he gave the children a demonstration about the animals, he let the children touch the animals very gently. Annie was very scared, but she mustered up enough courage to touch the hissing cockroach from Madagascar. Mathias was so happy that he got to touch a tarantula. Jeremy bragged about getting to touch the boa constrictor. Jason got a picture taken of him touching a snapping turtle. Gracie couldn't bring herself to touch any wild animals, so the animal man let her peek in the container where the stick bug was.
I think that at least three kindergarteners touched a wild animal.
- (53) Fourteen American tourists were traveling around southern Greece. Their tour guide took a quick poll to see how many of them had visited Greece before this trip. Although they had all visited places like Italy and France, only one of them had ever visited Greece before.
I think that between two and four American tourists in the group had visited Greece before.
- (54) Fourteen hotel workers have been given different responsibilities to get the hotel ready for the Pharmaceutical convention that was going to be hosted next weekend. Because most of the activity was going to be done in the ballroom, the manager asked ten of them to assemble the podium, check the sound systems, set up tables and chairs, and so forth in the ballroom. Only four hotel workers were asked to work in the front lobby, polishing tables, setting out floral arrangements, and so forth.
I think that between two and four hotel workers were asked to work in the front lobby.
- (55) Fourteen librarians were each asked to nominate one of their favorite children's book authors/illustrators. As it turns out, there was a lot of agreement among some of them, but the group was divided in their choices. Five of them chose Patricia Polacco, while nine of them chose Mo Willems.
I think that between three and six librarians selected Mo Willems as their favorite author/illustrator.
- (56) Three hunters, David, Ron and Mitt, went hunting in the tiny forest by the local lake. Three bears lived there: two brown bears and a grizzly bear. David and Ron saw the same brown bear. Mitt only saw the grizzly bear. The other brown bear was not

visible that day.

I think that a hunter saw every bear living in the tiny forest by the lake.

- (57) A journal was tasked with reviewing four linguistics books that appeared last month: a book about language change, another about child language, a third about Algonquian languages, and a fourth on morphological case assignment. The journal editor in chief asked four experts in the field to serve as book reviewers: Tony, Helen, Marcus, and Charles. Tony reviewed the book on language change, Helen reviewed the one on child language, Marcus reviewed the one about Algonquian languages, and Charles reviewed the one on morphological case.

I think that one expert reviewed every linguistics book.

- (58) Recently it was Teacher Appreciation Day at the Sunny Day Preschool. The classroom moms for the four preschool classrooms decided they wanted to do something nice to recognize their children's teachers. Stephanie's mom collected money for a spa treatment gift card for Mrs. Anderson. Sterling's mom collected money for a Kohl's gift card for Ms. Baker. Jeanine's mom collected money to give Mrs. Whitacker a gift card to Applebee's. And Marcie's mom collected money to give a gift card to Ms. Riesbord for Michael's Arts & Crafts store.

I think that one classroom mom gave a gift card to every preschool teacher.

- (59) Hugh was having a hard time deciding whom to vote for in the upcoming election. Voting for the school board was particularly hard. He didn't usually vote along party lines, because he wanted to select the best person for the job. But after reviewing the background and records of the five candidates, three of whom were Democrat and two of whom were Republican, Hugh made his choice. When he went into the voting booth that day, he cast his ballot for Donna Richards, Pranav Desai, and Angelica Huddleston – all Democrats.

I think that one man voted for every Democrat on the school board ticket.

- (60) Four young children (James, Carol, Lauren, and Molly) decided to decorate their bikes for the Fourth of July, so they could show their patriotic spirit as they rode around the neighborhood. Each of them hung two small American flags from the back of the bike, behind the seat. Then James and Lauren had an idea to hang a red, white and blue bow from their handle bars. Carol and Molly decided not to do this, because the bow would block their bell.

I think that two American flags were posted on every bike.

- (61) The local firefighters had to re-take an exam each year to demonstrate that they were keeping up with all of the necessary skills and knowledge. In previous years, they had been told in advance which day the exam would be administered, but this year, the date was not announced in advance, and it caught everyone off guard. Of the 19 firefighters, only three of them passed the exam. The rest had to take it again the following month.

I think that fewer than five of the firefighters passed the exam.

- (62) The city was hosting a summer music festival, and tried to invite some of the most popular rock groups to be a part of it in order to bring a younger crowd out to city-sponsored events. However, it seems that the right people were not put in charge of planning the event. They ended up selecting groups that are more popular with a much older crowd rather than people in their early twenties, so the event did not go as planned. Scanning around the audience during the first act, about 65% of the people looked like they were over 50+ years of age.

I think that more than half of the audience members were older than 40.

3.4 True Filler Sentences

- (63) Yesterday, a car salesman had just received two new cars, a Renault and a Volvo. He had two customers, Matilda and Juanita. He showed the Renault and the Volvo to Juanita and he showed nothing to Matilda.
I think that no customer saw any car yesterday.
- (64) For their final paper in a literature class, three students – Louise, Mark and Martin – had to review one of three plays. Louise reviewed 'Tamerlane' – a puppet drama, Mark reviewed 'Gladiator' – a comedy, and Martin reviewed 'Slap!' – another comedy. I think that no student in the class reviewed a comedy for their final paper.
- (65) Megan has three children, Sue, Anna and Jim. Yesterday she bought three popsicles for them, a chocolate popsicle, a vanilla popsicle and a fruit popsicle. She gave the chocolate popsicle to Sue, the vanilla popsicle to Anna and the fruit popsicle to Jim. I think that only Sue and Jim got a popsicle from Megan yesterday.
- (66) Last Wednesday, a daycare provider prepared three cupcakes for dessert, a chocolate cupcake, a banana cupcake and a blueberry cupcake. There are two toddlers at the day care, Carmen and Danny. The daycare provider gave the chocolate cupcake, the banana cupcake and the blueberry to Carmen, while the other toddler got nothing. I think that both toddlers got a chocolate cupcake last Wednesday.
- (67) Meredith went to a pet store last week and bought a parrot, a cat and a dog. She has two children, Anna and Theo. She gave the parrot, the cat and the dog to Anna, while Theo got nothing.
I think that Meredith bought her children an elephant last week.
- (68) Samantha has three boys, Tommy, Bobby and Timmy. Yesterday she bought two milkshakes for them, a chocolate milkshake and a mango milkshake. She gave the chocolate milkshake to Tommy, the mango milkshake to Bobby, and Timmy got nothing.
I think that no children got a milkshake yesterday.
- (69) Phil bought three video games last week, an adventure video game, a basketball video game and a first-person shooter. He has three friends – Sam, Jesse and Chris – who will have their birthday next month. He will give the adventure video game to Sam, the basketball video game to Jesse and the first-person shooter to Chris.
I think that Phil will give Jesse two games for his birthday.
- (70) Four university professors were invited to a local magnet school as part of a special panel to present on important discoveries of the 20th century. The students were assigned to be their hosts for the day. Each invited professor was assigned a student to greet them in the morning and lead them to the auditorium, a second student to take them to lunch and tour the school, and a third student to escort them to the front office to handle paperwork, and then make sure they exited the building safely.
I think that fewer than three students were assigned to every invited professor.
- (71) Six teenagers – four boys (Andy, Doug, Jim, and Clive) and two girls (Samantha and Jocelyn) – went to the local movie theater to see a movie. There were two movies they had to decide between – Jurassic Domination: Revenge of the Raptors, and Diary of a Lovestruck Vampire. Of course, the four boys chose to see Jurassic Domination, and the two girls opted for Diary of a Lovestruck Vampire. Regardless of their choice, they all enjoyed the movie.
I think that more than five of the teenagers saw a movie about dinosaurs.
- (72) The local farmer's cooperative has nineteen members. This year, thirteen of the members chose to plant kale in their area. But six others chose to plant squash. In the end they shared what they grew, so that everyone could enjoy everything.
I think that at most five of the farmers grew kale in their area.
- (73) During a recent weekday performance of 'A Christmas Carol' at the McCarter Theatre,

the theater was packed. As I looked across the orchestra section, for example, I could only spot a few empty seats. The people who work at the theater must have done a very good job of promoting the show. I'm sure they're pleased with the ticket sales. I think that less than half of the seats in the orchestra section were filled.