7.1 PRE-TEST

Course name: Algebra II Algebra 2 Essential Skills
Professor name: Homeschool Studies
College name: Homeschool Studies

All exercises, quizzes, and tests are delivered online. This is a sample print of an online Test.

Directions: Ready to test your smarts?

Have a shot at this 20-question practice test!

Take it as many times as you want to. Once you're done, be sure to click the "Guide" button to review any questions you missed, a step-by-step explanation for the question, and a link to the video where that content is discussed.

Need Help? No Problem! Contact support@thinkwell.com with questions.

Question: 1

There are 20 cars contesting a race. The first three cars completing the race will be awarded prizes. In how many ways can the prizes be awarded?

- 6840
- 51,680
- 826,880
- 12,403,200

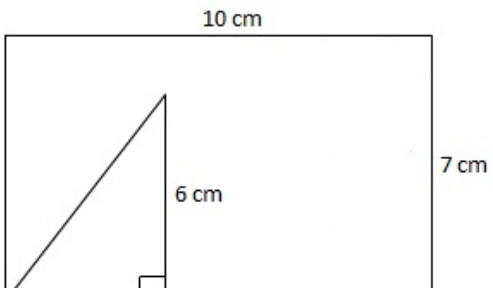
Question: 2

Jo has 5 sweaters. He needs to take 3 sweaters on a vacation. In how many different ways can he choose 3 sweaters out of 5?

- 40
- 30
- 20
- 10

Question: 3

What is the probability, to the nearest hundredth, that a point chosen randomly inside the rectangle is in the triangle?



- 0.34
- 0.17
- 0.83
- 0.35

Question: 4

A bag contains yellow-, blue-, orange-, green-, red-, and black-colored crayons. The table below shows the results of selecting one crayon from the bag, recording the color, and then replacing the crayon. What is the experimental probability of selecting a crayon that is either orange or red?

Crayon	Yellow	Blue	Orange	Green	Red	Black
Number	15	10	8	29	17	21

- 8/100 = 8%
- 17/100 = 17%
- 1/4 = 25%
- 1/2 = 50%

Question: 5

A box contains 4 white ribbons and 8 pink ribbons. Determine whether the events of picking a white ribbon and then another white ribbon without replacement are independent or dependent. Then identify the indicated probability.

- independent; 1/11
- dependent; 1/12
- dependent; 1/11
- independent; 1/12

Question: 6

Chen spins the spinner and rolls a standard number cube. Find the probability that the spinner will stop on blue and the cube will show a four.

Write the probability as a fraction in simplest form.

Question: 7

A die is rolled twice. What is the probability of getting either a multiple of 3 on the first roll or a total of 7 for both rolls?

- 4/9
- 1/2
- 5/9
- 1/4

Question: 8

Two number cubes are rolled. What is the probability of rolling either a total greater than 9 or a multiple of 5?

- 2/9
- 5/18
- 7/18
- 13/36

Question: 9

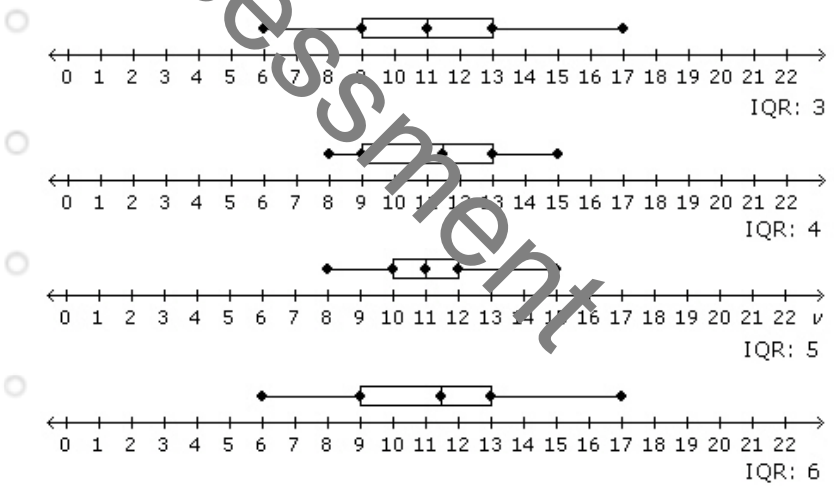
The probability distribution of the number of cars passing through an intersection each day based on past data is given below. Identify the expected number of cars passing through the intersection for one day.

Number of cars, n	152	89	94	146
Prob. of n cars	0.35	0.15	0.26	0.24

- 121
- 123
- 125
- 126

Question: 10

Identify the correct box-and-whisker plot of the given data. Then find the interquartile range.
{13, 9, 12, 11, 9, 12, 8, 15, 10, 14}



Question: 11

A binomial experiment has 4 trials in which $p = 0.4$. What is the probability of 3 successes?

- 0.1875
- 0.09345
- 0.1536

- 0.2089

Question: 12

Identify the first five terms of the sequence in which $a_1 = 5$ and $a_n = 2a_{n-1} - 3$ for $n \geq 2$.

- 5, 7, 9, 11, 13
- 5, 9, 13, 17, 21
- 5, 7, 15, 19, 35
- 5, 7, 11, 19, 35

Question: 13

Identify a possible explicit rule for the nth term of the sequence $5, 3, 1, -1, -3, \ldots$.

- $a_n = n + 4$
- $a_n = 2n + 1$
- $a_n = 2n + 3$
- $a_n = 7 - 2n$

Question: 14

Evaluate the series.

$$\sum_{k=5}^{10}(5k + 4)$$

- 195
- 200
- 220
- 249

Question: 15

Bill wants to plant roses in his triangular plot. There will be 1 plant at a corner. Each row will have 6 additional plants. He wants the plot to have as many rows as possible with 150 rose plants. How many rows will Bill's plot have?

- 5 rows
- 6 rows
- 7 rows
- 8 rows

Question: 16

Identify the 9th term of the given arithmetic sequence.
5, 9, 13, 17, 21,...

- 29
- 33
- 37
- 41

Question: 17

Identify the 11th term of the given geometric sequence.
0.005, 0.05, 0.5, 5, 50, ...

- 50,000,000
- 500,000,000
- 5,000,000
- 500,000

Question: 18

Determine whether the given sequence could be geometric, arithmetic, or neither. If possible, identify either the common ratio or the common difference.
−1280, −320, −80, −20, −5, ...

- arithmetic; $d = 1/4$
- geometric; $r = 4$
- geometric; $r = 1/4$
- neither

Question: 19

Expand the binomial using the Binomial Theorem.
$(3c - d)^3$

- $c^3 - 27c^2d + 9cd^2 - d^3$
- $c^3 + 27c^2d - 9cd^2 + d^3$
- $27c^3 - 27c^2d + 9cd^2 - d^3$
- $27c^3 + 27c^2d + 9cd^2 + d^3$

Question: 20

Identify the missing terms in the given arithmetic sequence.
5, ?, ?, ?, −9.

- −1.5, −2, −5.5
- 1.5, −2, −5.5
- 1.5, 2, 5.5
- −1.5, −2, 5.5