

# Florida Benchmark Pre-Test

1. Makayla and her friends earn money by babysitting after school. At the end of one week, they deposit their weekly earnings at the bank. Which friend earns the most money per hour babysitting?

Name	Hours Worked	Deposit Amount
Makayla	15	\$138.75
Gael	13	\$136.50
Jason	16	\$168.00
Cecilia	9	\$101.25

- (A) Makayla  
(B) Gael  
(C) Jason  
(D) Cecilia

2. Emma has been training for a bike race. She recorded her training times in the table below. Emma believes that if her average speed is above 15 miles per hour, then she has a good chance of winning the race. On which day(s) was Emma's average speed over 15 miles per hour?

Day	Time (h)	Distance (mi)
Monday	$1\frac{1}{2}$	27
Wednesday	$3\frac{1}{3}$	$63\frac{1}{3}$
Saturday	$2\frac{1}{2}$	35
Sunday	$\frac{3}{4}$	9

- (A) Monday only  
(B) Saturday only  
(C) Monday and Wednesday  
(D) All four days

3. A bulk grocery carries almonds sold in three different sizes of packages. Which package has the most economical price in dollars per pound for almonds?

Almonds \$19.96 64 oz	Almonds \$21.75 80 oz	Almonds \$33.95 112 oz
-----------------------------	-----------------------------	------------------------------

- (A) 64 oz  
(B) 80 oz  
(C) 112 oz  
(D) 64 oz and 112 oz

4. The table below shows the amount of time it takes a car to travel certain distances.

Time (min)	Distance (mi)
10	10
20	18
35	30
45	38

Which statement best describes the graph that would represent the relationship between time traveled and distance traveled?

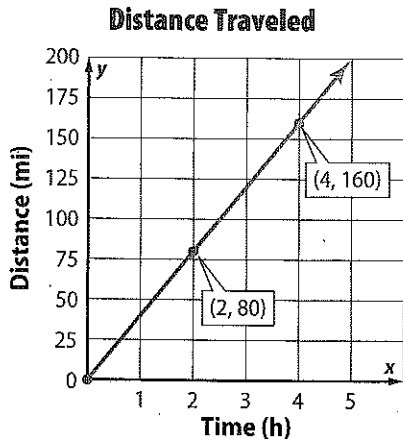
- (A) a straight line that passes through the origin  
(B) a curved line that passes through the origin  
(C) a curved line that does not pass through the origin  
(D) a straight line that does not pass through the origin



5. The rates at Joe's Internet Café for last year are shown in the table below. This year, his rates will be  $1\frac{1}{4}$  times last year's rates to help pay his increased rent costs. How much more will a customer pay to use the Internet for 6 hours?

Time (h), $x$	1	2	3	4
Cost (\$), $y$	7	14	21	28

- (A) \$1.75  
 (B) \$7.00  
 (C) \$10.50  
 (D) \$15.75
6. The graph shows the distance a car travels over a certain amount of time. What is the ratio of kilometers traveled to the time in hours? (1 mi  $\approx$  1.61 km)



- (A) 40 km/h  
 (B) 64.4 km/h  
 (C) 80 km/h  
 (D) 128.80 km/h

7. Ella and her family normally pay \$165 per month for electricity. The utility company is adding a 5% tax to help fund research for eco-friendly energy sources. How much tax will Ella's family pay for an entire year?

- (A) \$990.00      (C) \$66.00  
 (B) \$99.00      (D) \$8.25

8. The track and field coach records Ian's 400-meter race times during three practices. How much greater was the percent of change from Practice 1 to Practice 2 than from Practice 2 to Practice 3? Round to the nearest tenth.

Practice	1	2	3
Time (s)	63	60	58

- (A) 1.5%  
 (B) 3.3%  
 (C) 4.8%  
 (D) 7.9%

9. Jordan ordered a rib basket meal which cost \$21. He also purchased a bottle of the restaurant's barbecue sauce, which costs \$15. The sales tax rate is 6.5%. If he leaves an 18% tip for the cost of the meal for the waitress, what is the total amount Jordan spent at the restaurant?

- (A) \$45.24  
 (B) \$42.12  
 (C) \$41.39  
 (D) \$26.39



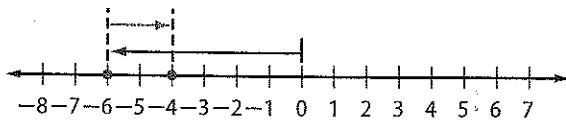
10. Evan has \$4,000 that he wants to put into a savings account until he leaves for college, which will be 6 years from now. The table below shows the annual interest rate offered at two different banks.

Bank	Annual Interest Rate
Bank A	4.5%
Bank B	4.9%

How much more money will he have in his savings account if he chooses Bank B instead of Bank A?

- (A) \$16                      (C) \$1,080  
 (B) \$96                      (D) \$1,176

11. Carlos is snorkeling at the beach. The number line shows his vertical movement in feet. Which expression is represented on the number line model? Describe his vertical movement in relation to the surface of the water.

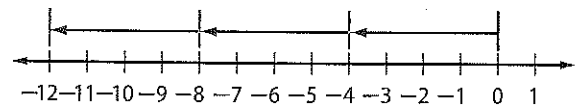


- (A)  $(-6) + (-4)$ ; He swam 6 feet down and then 4 feet down. He is 10 feet below the surface.  
 (B)  $0 + (-6)$ ; He swam 6 feet down and is 6 feet below the surface of the water.  
 (C)  $(-4) + (-2)$ ; He swam 4 feet down and then 2 feet down. He is 6 feet below the surface.  
 (D)  $(-6) + 2$ ; He swam 6 feet down and then 2 feet up. He is 4 feet below the surface.

12. The highest elevation in a city is 25 feet above sea level, and the lowest elevation is 8 feet below sea level. How can you express the range of elevation of the city as an addition expression and as a subtraction expression?

- (A)  $25 + 8$ ;  $25 - (-8)$   
 (B)  $8 - 25$ ;  $-25 + 8$   
 (C)  $-8 + 25$ ;  $-8 - (-25)$   
 (D)  $25 + (-8)$ ;  $25 - 8$

13. Each time Min uses an ATM that belongs to a bank other than the one she has a checking account with, she is charged a fee. The number line shows her ATM fees for one month. Which numerical expression represents her ATM fees? What does that expression mean?



- (A)  $(-3)4$ ; Min uses an ATM 4 times and is charged \$3 for each use.  
 (B)  $(-12)1$ ; Min is charged \$12 for 1 ATM use.  
 (C)  $(-4)3$ ; Min uses an ATM 3 times and is charged \$4 for each use.  
 (D)  $(-4)12$ ; Min uses the ATM 12 times and is charged \$4 for each use.

14. On December 24, 1924, the temperature in Fairfield, Montana, fell from  $63^{\circ}\text{F}$  at noon to  $-21^{\circ}\text{F}$  at midnight. What was the average temperature change per hour that day?

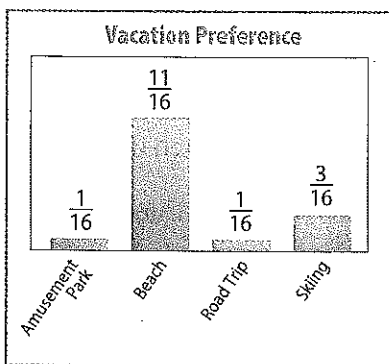
- (A)  $-3.5^{\circ}\text{F}$                       (C)  $-42^{\circ}\text{F}$   
 (B)  $-7^{\circ}\text{F}$                           (D)  $-84^{\circ}\text{F}$



15. The table below shows the change in value for four stocks over one day. What is the difference between the greatest value change and the least value change expressed as a decimal?

Stock	MCD	THC	BIG	GES
Value	+1.75%	+0.65	$+\frac{7}{8}$	$+1\frac{1}{4}$

- (A) 1.25  
 (B) 1.2325  
 (C) 1.1  
 (D) 0.6
16. Moki asked his classmates where they would like to take a vacation. The bar graph below shows the fraction of the class that chose each option. What fraction more of the class prefer the beach than the other three vacations combined?



- (A)  $\frac{5}{16}$   
 (B)  $\frac{3}{8}$   
 (C)  $\frac{9}{16}$   
 (D)  $\frac{5}{8}$

17. Over three days, a veterinarian measures the difference between a cat's weight and the weight on its first visit. The table below shows his findings.

Visit	Difference from Original Weight (lb)
Second	$-\frac{1}{2}$
Third	$-\frac{1}{5}$
Fourth	$-\frac{3}{10}$

What is the net weight change of the cat's weight, in pounds, from the second visit to the fourth?

- (A)  $-\frac{1}{5}$   
 (B)  $-\frac{1}{10}$   
 (C)  $\frac{1}{10}$   
 (D)  $\frac{1}{5}$
18. The DeSilva family held a family reunion last summer. At the reunion, there was a cheese tray that contained the types of cheese shown in the table below. At the end of the event,  $6\frac{5}{6}$  pounds of cheese had been eaten. How much cheese was left?

Type of Cheese	Amount (lb)
Cheddar	$3\frac{1}{2}$
Provolone	$2\frac{1}{2}$
Swiss	$2\frac{1}{4}$

- (A) 1 pound  
 (B)  $1\frac{5}{12}$  pounds  
 (C)  $1\frac{1}{2}$  pounds  
 (D)  $2\frac{7}{12}$  pounds



19. Yana took a 15-hour flight to Korea. He slept for  $\frac{1}{3}$  of the flight. The table shows how Yana spent his time when he was awake. How many minutes did he spend talking?

Activity	Fraction of Time Awake
Reading	$\frac{1}{2}$
Eating	$\frac{1}{6}$
Talking	$\frac{1}{3}$

- (A) 100 minutes  
 (B) 180 minutes  
 (C) 200 minutes  
 (D) 300 minutes
20. A family-size container of macaroni and cheese holds sixteen  $\frac{3}{4}$ -cup servings. A chef prepares meals using  $1\frac{1}{3}$  cups in each bowl. How many bowls of macaroni and cheese can the chef prepare from one family-size container?
- (A)  $1\frac{7}{9}$   
 (B) 9  
 (C) 16  
 (D)  $21\frac{1}{3}$
21. A computer generated the following sequence of numbers. If  $n$  represents a term, what rule did the programmer use to create the next term?

4.1, 4.6, 5.1, 5.6, 6.1

- (A)  $n + 5$       (C)  $5n$   
 (B)  $n + 0.5$       (D)  $\frac{n}{5}$

22. Which expression is equivalent to  $5a + 5b$ ?

- (A)  $5ab$       (C)  $10ab$   
 (B)  $5(a + b)$       (D)  $10(a + b)$

23. Which expression is equivalent to  $(9x - 4) + 13(3x - 2)$ ?

- (A)  $9x + 26$       (C)  $48x - 30$   
 (B)  $39x - 26$       (D)  $48x + 30$

24. A quantity represented by  $3x - 4$  is subtracted from the quantity  $5x - 7$ . What is the result?

- (A)  $2x - 3$       (C)  $2x - 11$   
 (B)  $2x + 3$       (D)  $2x + 11$

25. A prime expression is one that cannot be factored. Which expression is prime?

- (A)  $6 + 3x$   
 (B)  $7x + 3$   
 (C)  $15x + 10$   
 (D)  $30x + 40$

26. The Oriental Pearl Tower in China is 1,535 feet tall. It is 280 feet shorter than the Canadian National Tower. Which equation can be used to find the height ( $h$ ) of the Canadian National Tower?

- (A)  $1,535 + h = 280$   
 (B)  $h = 1,535 - 280$   
 (C)  $1,535 = h - 280$   
 (D)  $280 - h = 1,535$



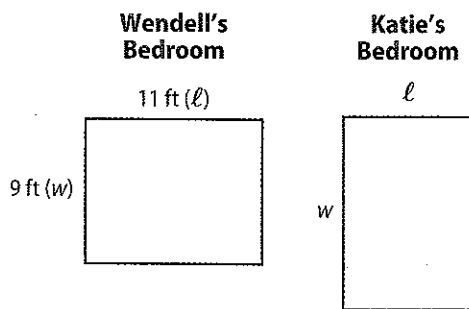
27. The product of two numbers  $a$  and  $x$  is  $b$ . What operation is used to solve the equation that represents this statement for the value of  $x$ ?

- (A) Add  $a$  to each side.
- (B) Subtract  $a$  from each side.
- (C) Multiply each side by  $a$ .
- (D) Divide each side by  $a$ .

28. Audrey drove 200 miles in 3.5 hours. Which equation can be used to find the rate  $r$  at which Audrey was traveling?

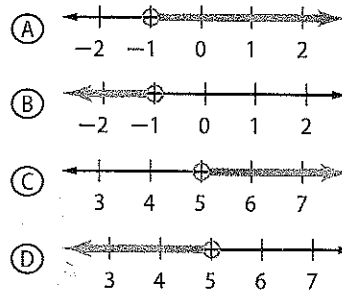
- (A)  $200 = 3.5r$
- (B)  $200 \cdot 3.5 = r$
- (C)  $\frac{r}{3.5} = 200$
- (D)  $200r = 3.5$

29. Wendell and Katie have bedrooms with the same perimeter. Katie's bedroom has a width  $1\frac{1}{3}$  times the width of Wendell's bedroom. How long is Katie's bedroom?



- (A) 8 ft
- (C) 12 ft
- (B) 10 ft
- (D) 14 ft

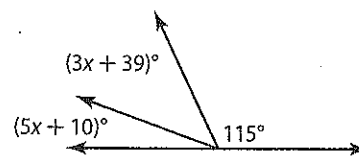
30. Stephanie solved the inequality  $x + 3 > 2$  and graphed the solution on a number line. Which graph represents the solution of  $x + 3 > 2$ ?



31. Mrs. Madison's class recorded how many students had various types of pets. Twice the number of students who own a lizard is less than 10. Which inequality can be solved to find what is the number of students who own a lizard?

- (A)  $(2 - 10)n < 0$
- (B)  $10n < -5$
- (C)  $10 < 2n$
- (D)  $2n < 10$

32. Which of the following is the value of  $x$  in the figure below?



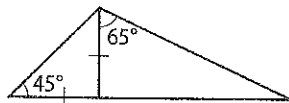
- (A) 2
- (B) 7
- (C) 21
- (D) 34



33. Two angles are complementary. The measure of one angle is 25% the measure of the other angle. What is the measure of the smaller angle?

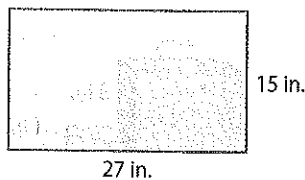
- (A)  $4.5^\circ$
- (B)  $18^\circ$
- (C)  $36^\circ$
- (D)  $72^\circ$

34. What is the measure of the smallest angle in the largest triangle?



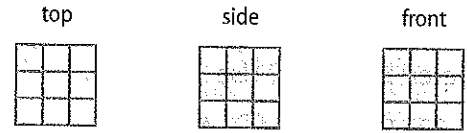
- (A)  $110^\circ$
- (B)  $70^\circ$
- (C)  $65^\circ$
- (D)  $25^\circ$

35. Cassie is drawing a house plan for her architecture class. She is making a scale model of one of the bedrooms. If the scale is 3 inches represents 1 foot, what is the area of the actual room?

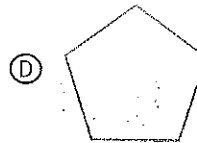
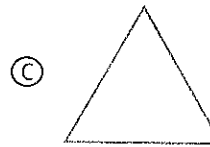
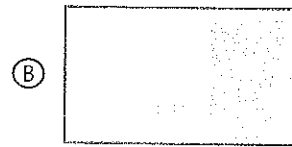
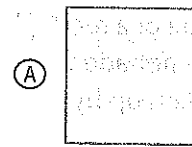


- (A) 45 square feet
- (B) 48 square feet
- (C) 54 square feet
- (D) 63 square feet

36. Alessandra created a three-dimensional figure made of cubes. Three views of the figure are shown below.



Which of the following polygons could NOT be a cross section of the three-dimensional figure she created?



37. José used string to make a necklace. The string can form a circle that has a diameter of 9 inches. Meg made a necklace with a string that could make a circle with a diameter that was  $\frac{1}{2}$  foot greater than José's. How long was the string Meg used? Use 3.14 for  $\pi$ . Round to the nearest tenth.

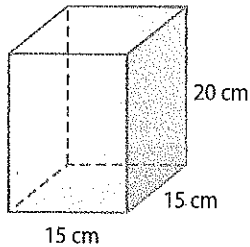
- (A) 28.3 inches
- (B) 29.8 inches
- (C) 40.8 inches
- (D) 47.1 inches



38. Lamar and Avalyn are raking the leaves around a tree in their backyard. The tree has a diameter of 2 feet and is surrounded by a circle of leaves that is 24 feet in diameter. What is the area in square feet of the ground covered by leaves? Use 3.14 for  $\pi$ .

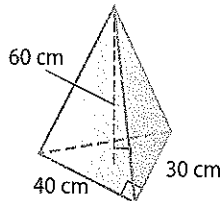
- (A) 377.94 ft<sup>2</sup>      (C) 452.16 ft<sup>2</sup>  
 (B) 449.02 ft<sup>2</sup>      (D) 530.66 ft<sup>2</sup>

39. A drink cooler is in the shape of a rectangular prism. How many liters of lemonade will it hold if half the volume is taken up by ice? (1 liter = 1,000 cm<sup>3</sup>)



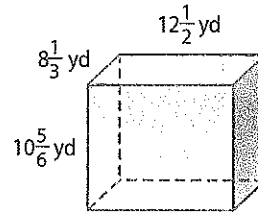
- (A) 1.65 L  
 (B) 2.25 L  
 (C) 4.5 L  
 (D) 9 L

40. Yukiko has 10,000 cubic centimeters of sand in a bag. She turns the pyramid shown upside down and pours the sand into it. What fraction of the pyramid can she fill with her bag of sand?



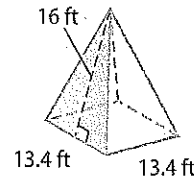
- (A)  $\frac{1}{2}$       (C)  $\frac{3}{4}$   
 (B)  $\frac{5}{9}$       (D)  $\frac{5}{6}$

41. Joseph must find the surface area of a block of wood being used in the school play so he can determine how much paint will be needed. What is the surface area of the block of wood? Round to the nearest tenth.



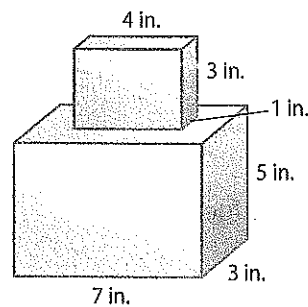
- (A) 600.5 yd<sup>2</sup>      (C) 662.7 yd<sup>2</sup>  
 (B) 659.7 yd<sup>2</sup>      (D) 700 yd<sup>2</sup>

42. What is the best estimate for the surface area of the pyramid?



- (A) 107 ft<sup>2</sup>      (C) 429 ft<sup>2</sup>  
 (B) 180 ft<sup>2</sup>      (D) 608 ft<sup>2</sup>

43. Two boxes have been glued together. How much felt is needed to cover all the surfaces of this new object with felt?

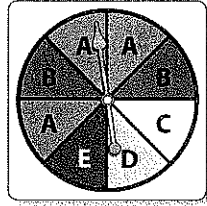


- (A) 117 in<sup>2</sup>      (C) 172 in<sup>2</sup>  
 (B) 151 in<sup>2</sup>      (D) 180 in<sup>2</sup>





44. Suppose you spin the spinner one time. How much greater is the probability that the spinner will land on A compared to C or D?



- (A) 12.5%
- (B) 25%
- (C) 37.5%
- (D) 50%

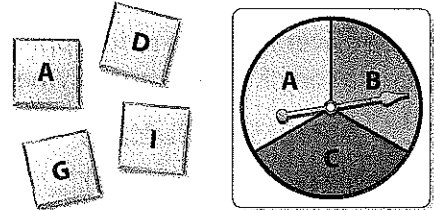
45. Nicolas tosses a coin three times. If heads appears at least once, he wins. Otherwise, he loses to his friend Manny. How much greater is the probability that Nicolas will win compared to Manny winning?

- (A)  $\frac{1}{8}$
- (B)  $\frac{1}{2}$
- (C)  $\frac{3}{4}$
- (D)  $\frac{7}{8}$

46. A baseball coach is deciding on the batting order for his nine starting players with the pitcher batting last. How many batting orders are there?

- (A) 8
- (B) 72
- (C) 40,320
- (D) 362,880

47. One letter tile is selected and the spinner is spun. What is the probability that the tile will be a vowel and the spinner will land on B or C?



- (A)  $\frac{1}{6}$
- (B)  $\frac{1}{4}$
- (C)  $\frac{1}{3}$
- (D) 1

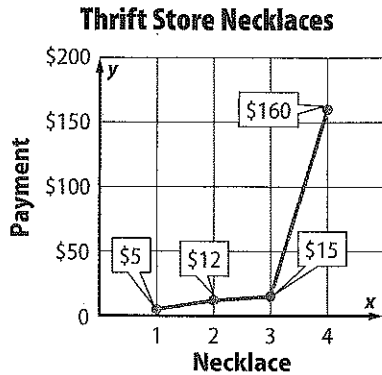
48. Students surveyed 30 people at the shopping mall asking which kind of store each shopper visited first. The table below shows their results.

Store	Number of Shoppers
Bookstore	8
Electronics	11
Clothing	7
Sporting Goods	4

If they continued to survey 390 people, predict how many more would say electronics or clothing compared to a bookstore.

- (A) 234
- (B) 195
- (C) 130
- (D) 104

49. A certain thrift store claims they will buy used jewelry at an average of \$48 per necklace. The amounts the store has paid for the last four necklaces are shown in the graph. Based on these data, how much less than the store's advertised average is the more appropriate representation of the average payment?



- (A) \$13.50
- (B) \$25.75
- (C) \$34.50
- (D) \$61.50

50. The table shows the hourly temperature in Pittsburgh on a certain day in December.

Time	Temperature (°F)
8:00 A.M.	35
9:00 A.M.	38
10:00 A.M.	45
11:00 A.M.	50
12:00 P.M.	54
1:00 P.M.	55
2:00 P.M.	56
3:00 P.M.	57
4:00 P.M.	58
5:00 P.M.	56

Which type of graph would be best to display the change in temperature every hour?

- (A) histogram
- (B) circle graph
- (C) box plot
- (D) line graph