

No Calculator for Session 1.

1. An expression is shown.

$$\frac{(4 \times 10^{-5}) + (2 \times 10^{-5})}{(3 \times 10^7)}$$

Which expression is equivalent?

- Ⓐ 2×10^{-17}
 - Ⓑ 2×10^{-12}
 - Ⓒ 2×10^{-2}
 - Ⓓ 2×10^{12}
2. Select all the sequences of transformations that always maintain congruence.
- Ⓐ a reflection and then a translation
 - Ⓑ a translation and then a rotation
 - Ⓒ a rotation and then a reflection
 - Ⓓ a dilation and then a reflection
 - Ⓔ a rotation and then a dilation
 - Ⓕ a translation and then a dilation

3. An equation is shown.

$$3^m \cdot 3^n = 3^{-2}$$

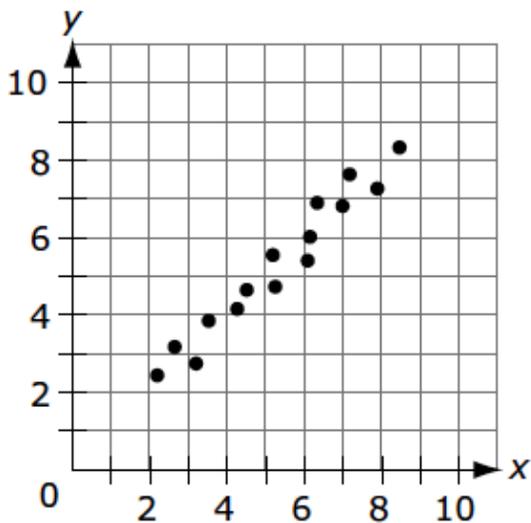
What are possible values for m and n ?

$m =$ _____ $n =$ _____

4. Determine whether each number is rational or irrational.

	Rational	Irrational
$\sqrt{81}$	(A)	(B)
$\sqrt{89}$	(C)	(D)
$\sqrt{121}$	(E)	(F)
$\sqrt{131}$	(G)	(H)

5. A scatter plot is shown.



Which statement is true for the scatter plot?

- (A) The data show no association.
- (B) The data show a positive correlation.
- (C) The data show a negative correlation.
- (D) The data show a nonlinear association.

Session 2

FSA Mathematics Practice Test Questions

A Scientific Calculator can be used for Session 2.

6. Select the number of solutions for each system of two linear equations.

	Zero Solutions	One Solution	Infinitely Many Solutions
$2x + 2y = 3$ $4x + 4y = 6$	(A)	(B)	(C)
$7x + 5y = 8$ $7x + 7y = 8$	(D)	(E)	(F)
$-2x + 3y = 7$ $2x - 3y = -7$	(G)	(H)	(I)

7. Which sequence of transformations results in figures that are similar but not congruent?

- (A) 90° clockwise rotation, translation 5 units to the left
- (B) reflection across the x -axis, dilation with a factor of $\frac{1}{2}$
- (C) translation 3 units down, reflection across the y -axis
- (D) reflection across the x -axis, translation 7 units to the left

8. The function $y = 3.50x + 2$ represents the total amount of money, y , saved over x weeks.

What is true about the function?

- (A) It is linear because it is always increasing.
- (B) It is linear because it increases at a constant rate.
- (C) It is nonlinear because it is always increasing.
- (D) It is nonlinear because it increases at a constant rate.

9. A cone has a height of 6.4 inches and a diameter of 6 inches.

What is the volume, in cubic inches, of the cone? Use 3.14 for π . _____

10. Select whether each equation has no solution, one solution, or infinitely many solutions.

	No Solution	One Solution	Infinitely Many Solutions
$3x = 3x + 4$	(A)	(B)	(C)
$3x + 4 = 3x + 4$	(D)	(E)	(F)
$3x + 4 = 4x + 3$	(G)	(H)	(I)

11. Select three side lengths, in centimeters (cm), that can form a right triangle.

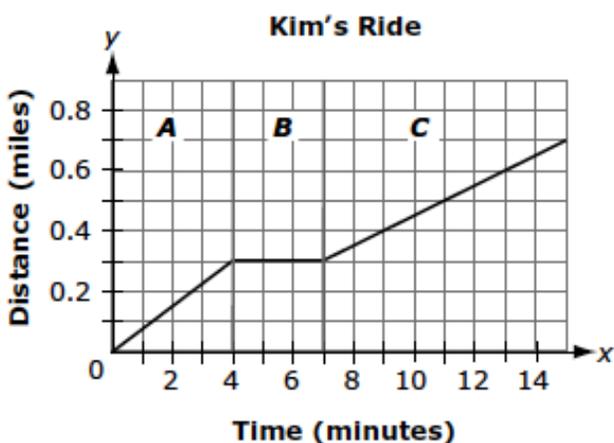
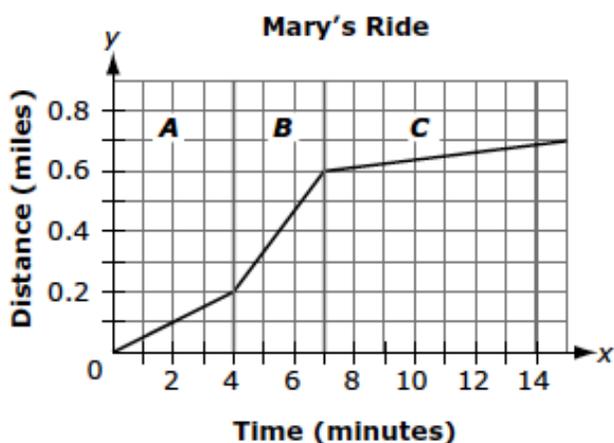
- (A) 5 cm
- (B) 6 cm
- (C) 8 cm
- (D) 10 cm
- (E) 11 cm
- (F) 12 cm

12. Five hundred students were asked whether they prefer apple juice or orange juice. The table shown displays the results.

	Apple Juice	Orange Juice	Total
Boys	30	100	
Girls	210	160	
Total			

How many more girls were surveyed than boys?

13. Mary and Kim each take 15 minutes to ride their bikes to school. The graphs of the functions that model their rides are shown, where x is the time, in minutes, and y is the distance, in miles.

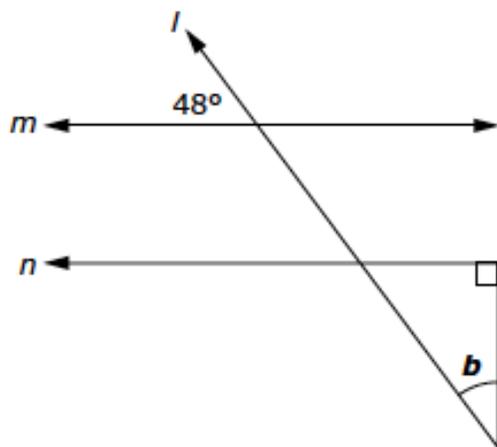


The graphs are divided into time intervals A , B , and C .

Use the graphs to match each statement with the appropriate person or people.

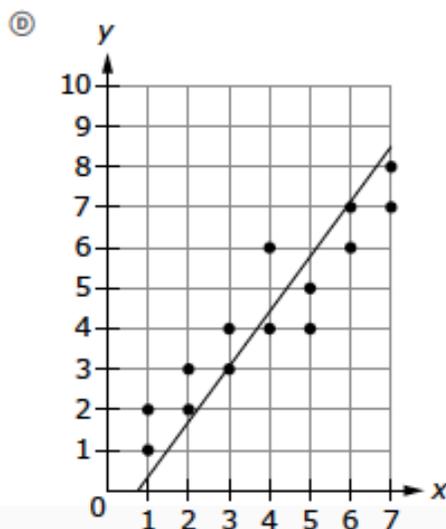
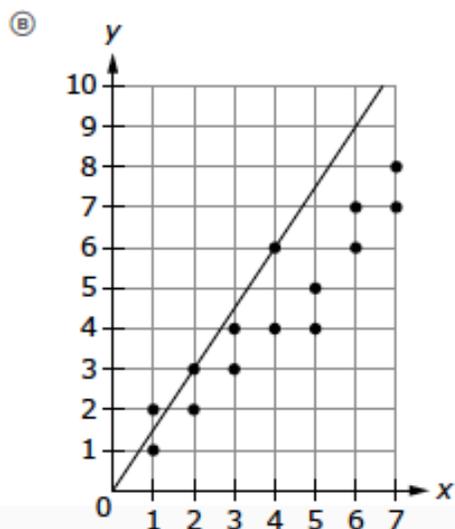
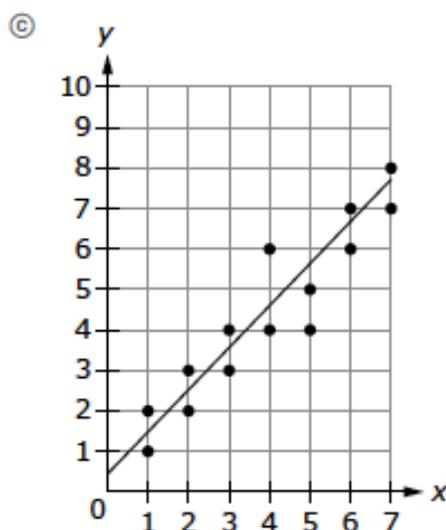
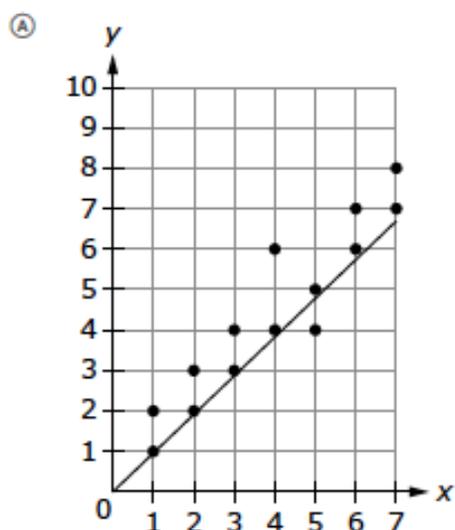
	Mary	Kim
Rode her bike fastest in interval A , as compared to the rest of her ride	(A)	(B)
Stopped for an interval of time	(C)	(D)
Rode slower in interval C than in interval B	(E)	(F)
Lives 0.7 miles from school	(G)	(H)

14. A figure with parallel lines m and n is shown.



What is the measure, in degrees, of $\angle b$?

15. Which graph represents the line of best fit for the scatter plot?



16. A square is cut in half on the diagonal, creating two equal triangles. Each triangle has an area of 0.32 square units.

What is the side length, in units, of the original square?