

LEAP CONNECT

Practice Test Reference Materials

Mathematics
Grade 8

Reference Materials include required graphics that are to be presented to the student during administration of the LEAP Connect mathematics practice test. Refer to the *Directions for Practice Test Administration (DPTA)* for detailed instructions.

Session 1

Items 1 – 4 Answer Options

Graph 1, “Graph B” (Item 5)

Items 5 – 7 Answer Options

Data Table 1, “Cost of Fuel” (Item 8)

Item 8 Answer Options

Graph 2, “Tree Growth” (Item 9)

Items 9 – 10 Answer Options

Graph 3, “Songs Learned” (Item 11)

Item 11 Answer Options

Graph 4, “Lake Water Temperature” (Item 12)

Item 12 Answer Options

Formula 1, Volume of a Cylinder (Item 13)

Item 13 Answer Options

Graph 5, “Game Rentals” (Item 14)

Items 14 – 15 Answer Options

Graph 6, “Graph B” (Item 16)

Items 16 – 19 Answer Options

Table 1, “Paper Recycling” and Incomplete Graph (Item 20)

Session 2

Items 21 – 22 Answer Options

Graph 7, “Bicycles Built” (Item 23)

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Graph 9, “Distance Hiked” (Item 32)

Items 32 – 33 Answer Options

Graph 10, “Candle B” (Item 34)

Item 34 Answer Options

Table 2, “Traffic Survey” and Incomplete Graph (Item 35)

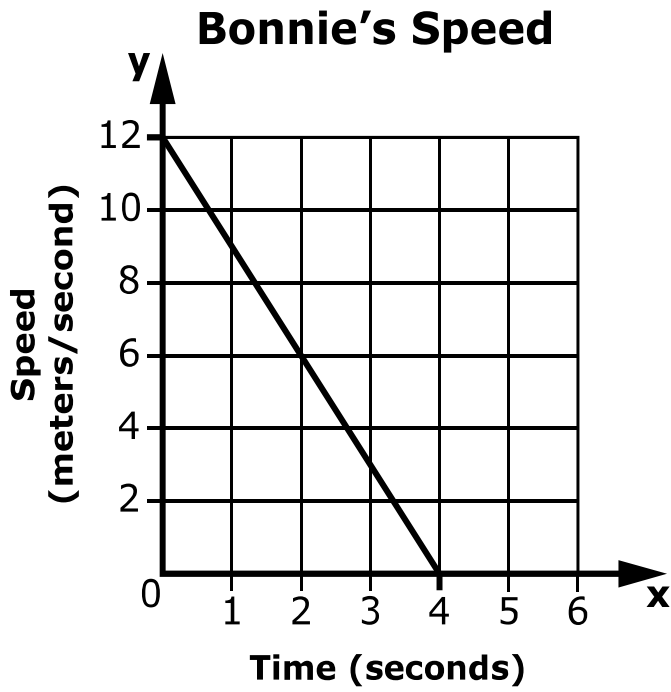
Session 1

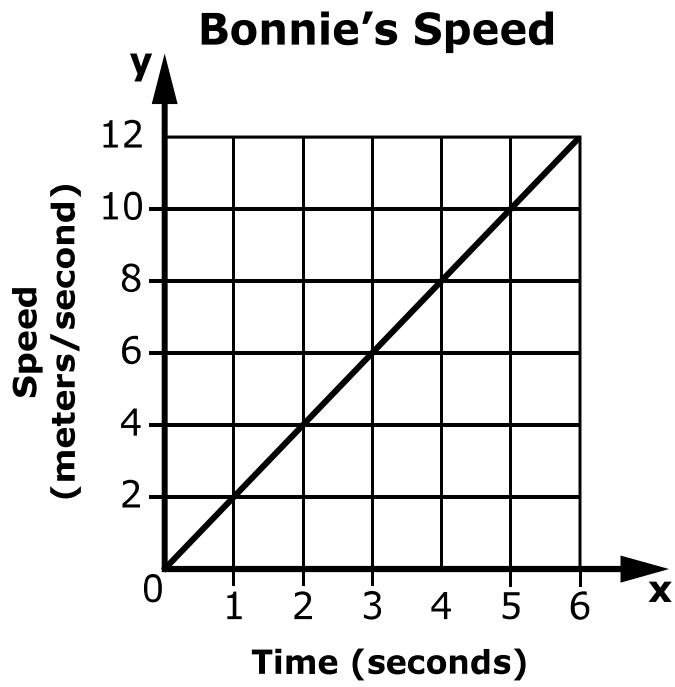
Session 1 – Item 1 Answer Options

A. The rectangle's area **increased**.

B. The rectangle's area **decreased**.

Session 1 – Item 2 Answer Options













B.

Session 1 – Item 3 Answer Options

A.

| Flowers Planted | |
|---|---|
| People | Flowers |
|  |  |
|  |  |

B.

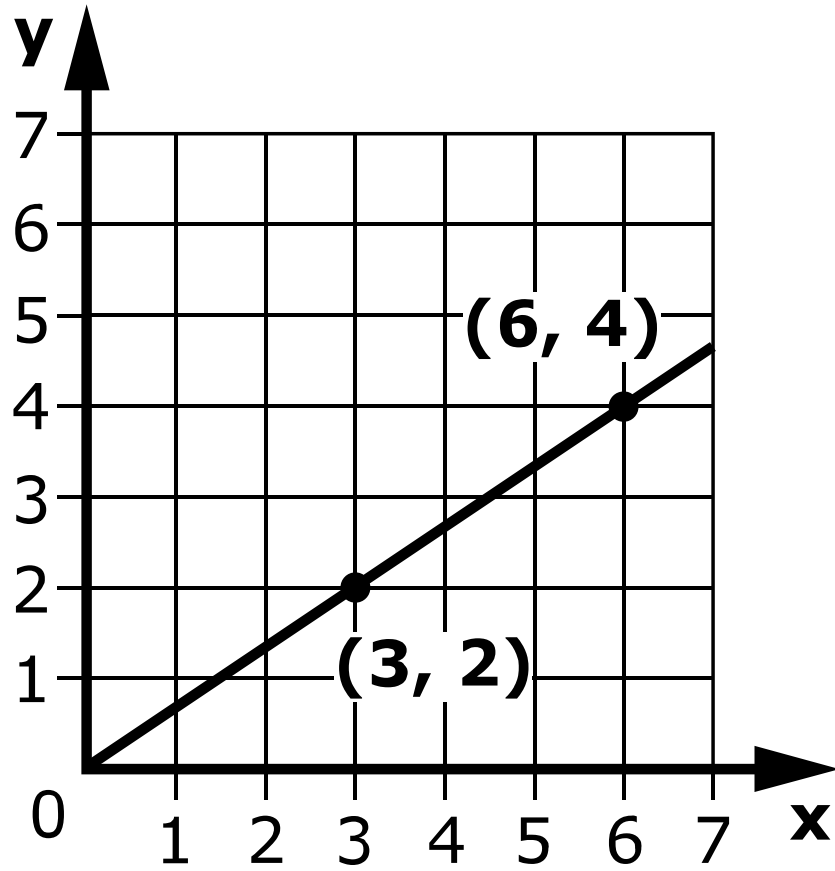
| Flowers Planted | |
|---|---|
| People | Flowers |
|  |  |
|  |  |

Session 1 – Item 4 Answer Options

A. 8 centimeters

B. 5 centimeters

Graph B



Graph1, "Graph B"

Session 1 – Item 5 Answer Options

A. $\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{3}{2}$

B. $\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{2}{3}$

C. $\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{6}{3}$

Session 1 – Item 6 Answer Options

A. 64

B. 56

C. 15

Session 1 – Item 7 Answer Options

A. point A

B. point B

C. point C

Cost of Fuel

| Volume of Fuel (in gallons) | Cost (in dollars) |
|--|------------------------------|
| 15 | 41.00 |
| 25 | 70.00 |
| 35 | 96.00 |

Data Table 1, "Cost of Fuel"

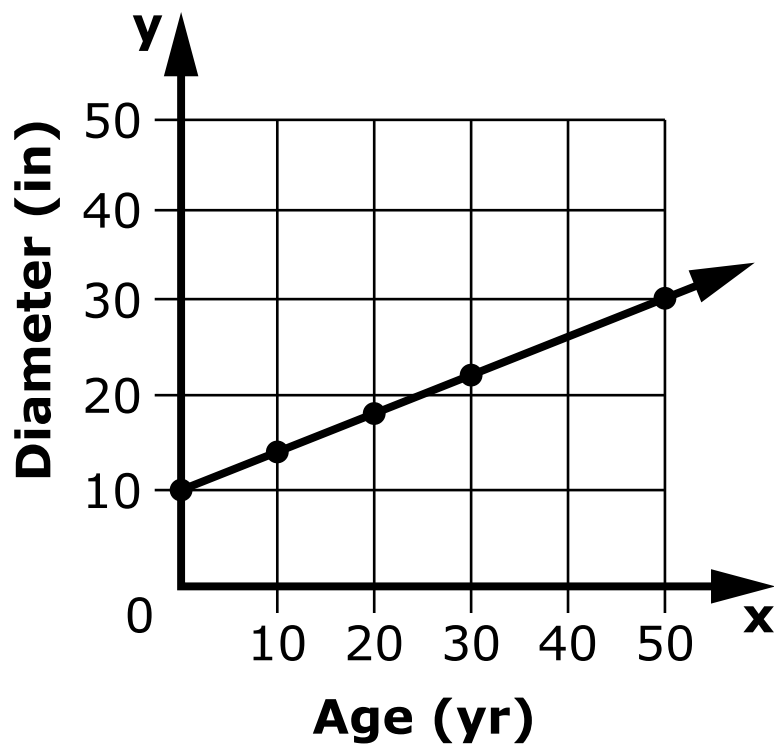
Session 1 – Item 8 Answer Options

- A. The **higher** the number of gallons purchased, the **higher** the cost.

- B. The **lower** the number of gallons purchased, the **higher** the cost.

- C. The number of gallons purchased has **no** effect on the cost.

Tree Growth



Graph 2, "Tree Growth"

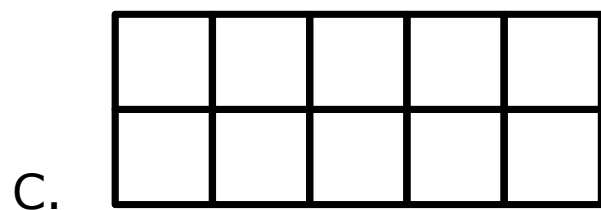
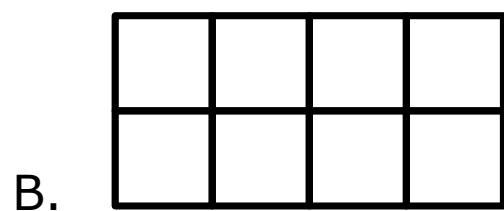
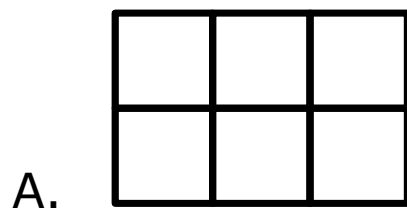
Session 1 – Item 9 Answer Options

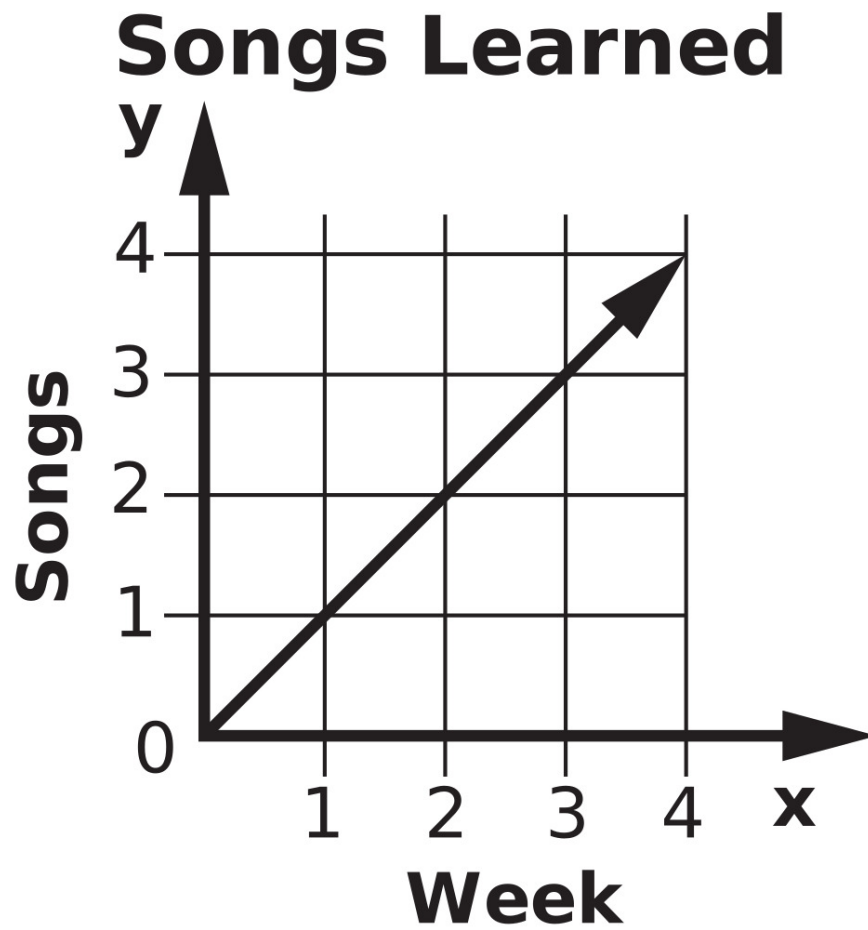
- A. As the age of a tree **decreases**, the diameter of its trunk **increases**.

- B. As the age of a tree **increases**, the diameter of its trunk **increases**.

- C. As the age of a tree **increases**, the diameter of its trunk **decreases**.

Session 1 – Item 10 Answer Options





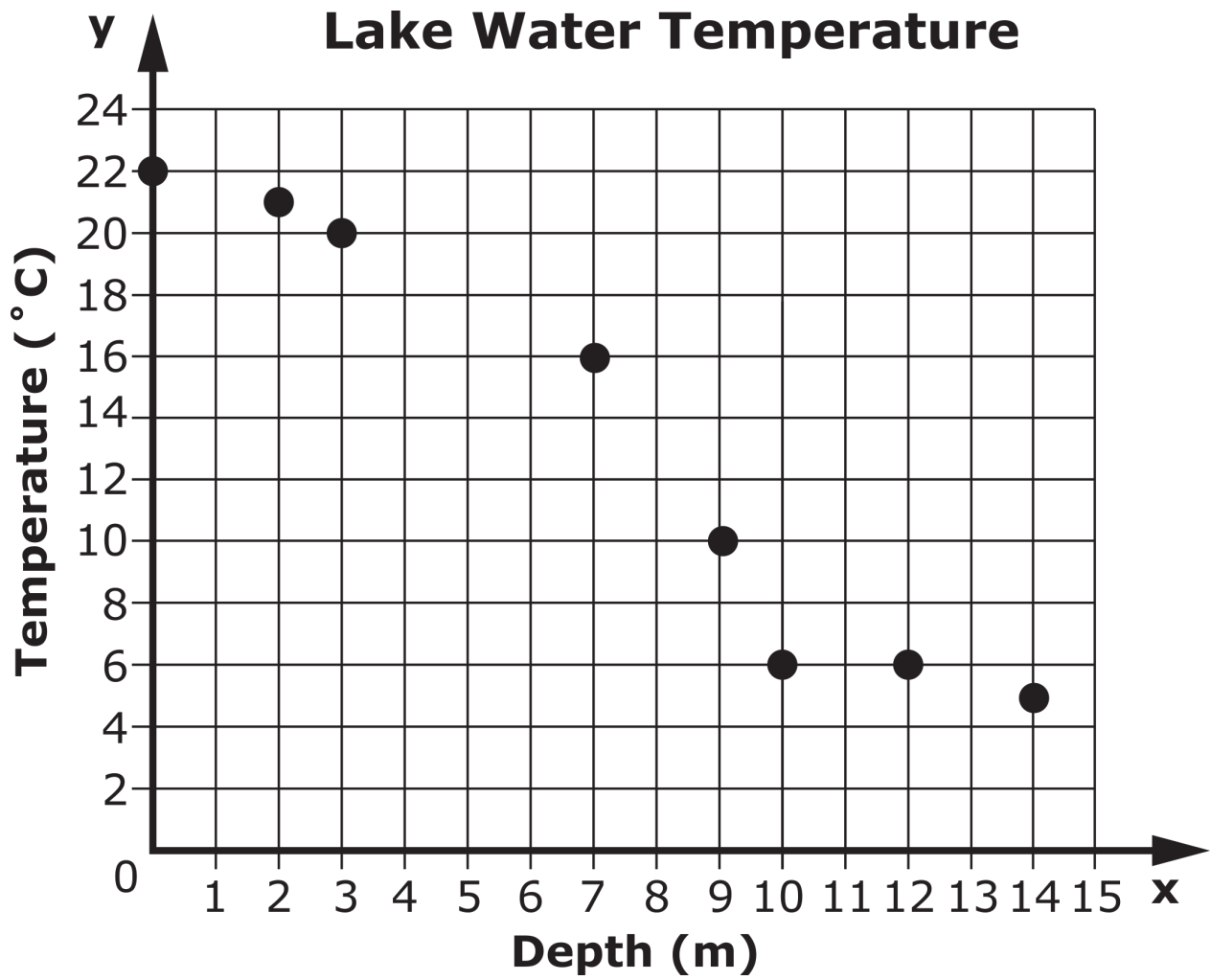
Graph 3, "Songs Learned"

Session 1 – Item 11 Answer Options

- A. The number of songs Paul learned stayed the **same** every week.

- B. The number of songs Paul learned **decreased** by 1 every week.

- C. The number of songs Paul learned **increased** by 1 every week.



Graph 4, "Lake Water Temperature"

Session 1 – Item 12 Answer Options

- A. The water temperature **decreases** as the depth of the lake **increases**.

- B. The water temperature **decreases** as the depth of the lake **decreases**.

- C. The water temperature **increases** as the depth of the lake **increases**.

$$\text{Volume} = \pi \times \mathbf{r} \times \mathbf{r} \times \mathbf{h}$$

$$\text{Volume} = _ \times _ \times _ \times _$$

$$\pi \approx 3.14$$

Formula 1, Volume of a Cylinder

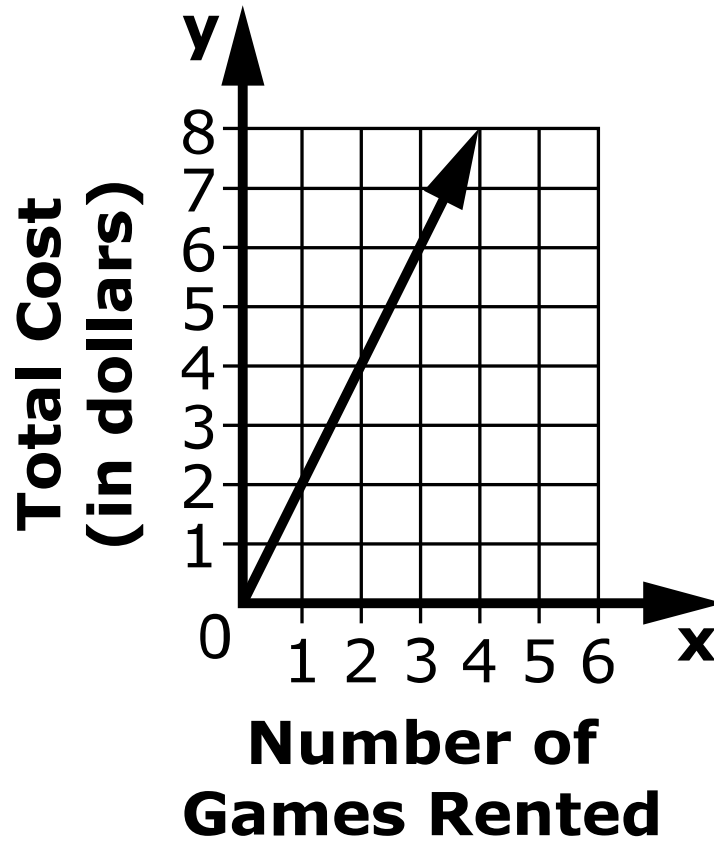
Session 1 – Item 13 Answer Options

A. 21.0 cu. cm

B. 87.92 cu. cm

C. 351.68 cu. cm

Game Rentals



Graph 5, "Game Rentals"

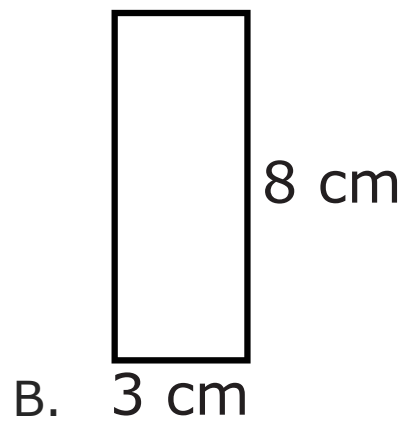
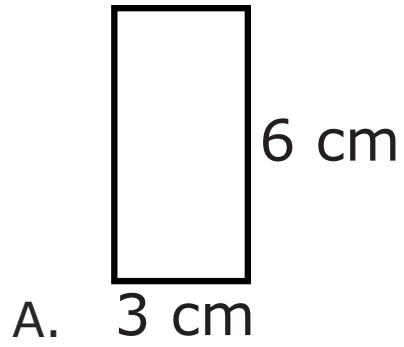
Session 1 – Item 14 Answer Options

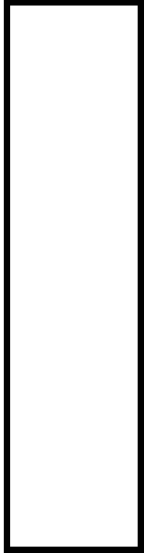
A. The total cost **increased**.

B. The total cost **decreased**.

C. The total cost stayed the **same**.

Session 1 – Item 15 Answer Options

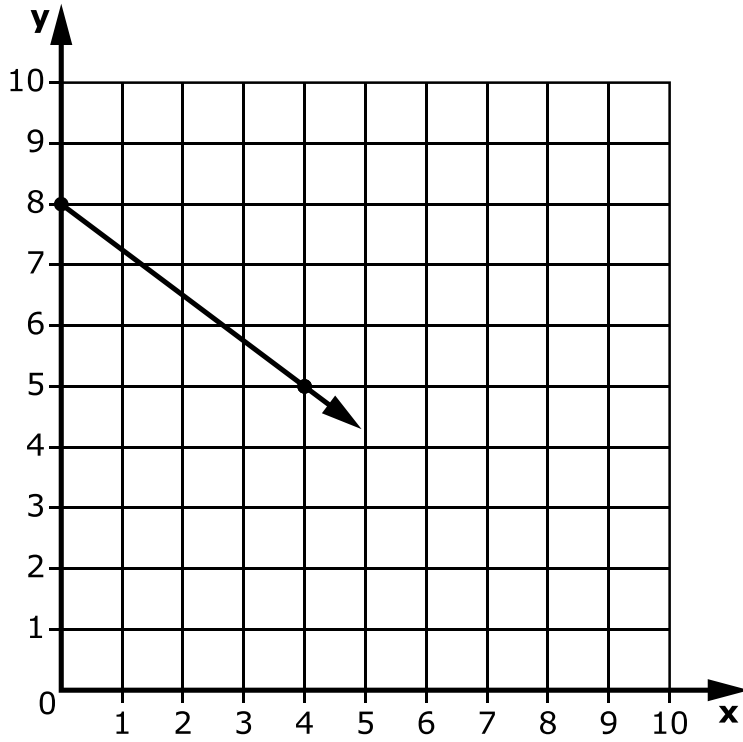




12 cm

c. 3 cm

Graph B



Graph 6, "Graph B"

Session 1 – Item 16 Answer Options

A. $(8, 0)$

B. $(0, 8)$

C. $(4, 5)$

Session 1 – Item 17 Answer Options

A. 2 units

B. 5 units

C. 12 units

Session 1 – Item 18 Answer Options

A. point A

B. point B

C. point C

Session 1 – Item 19 Answer Options

- A. The area of the poster **increased**.

- B. The area of the poster **decreased**.

- C. The area of the poster stayed the **same**.

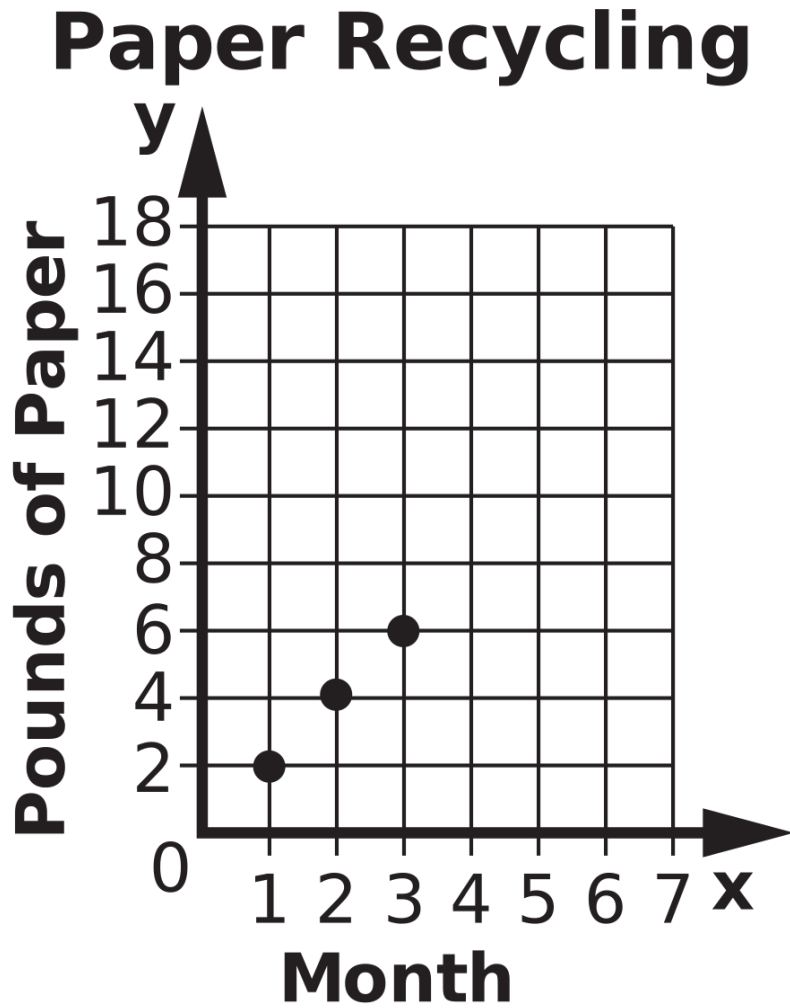
Paper Recycling

| Month | Pounds of Paper |
|--------------|------------------------|
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |
| 4 | 12 |

Table 1, "Paper Recycling"

Session 1 – Item 20

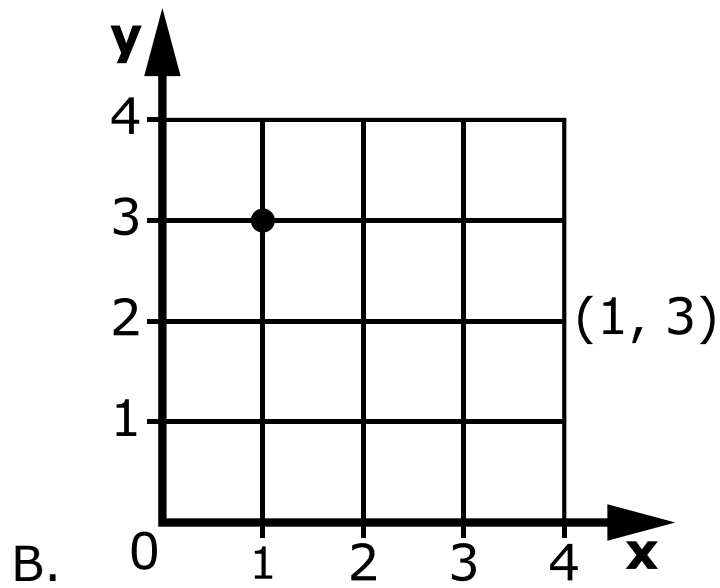
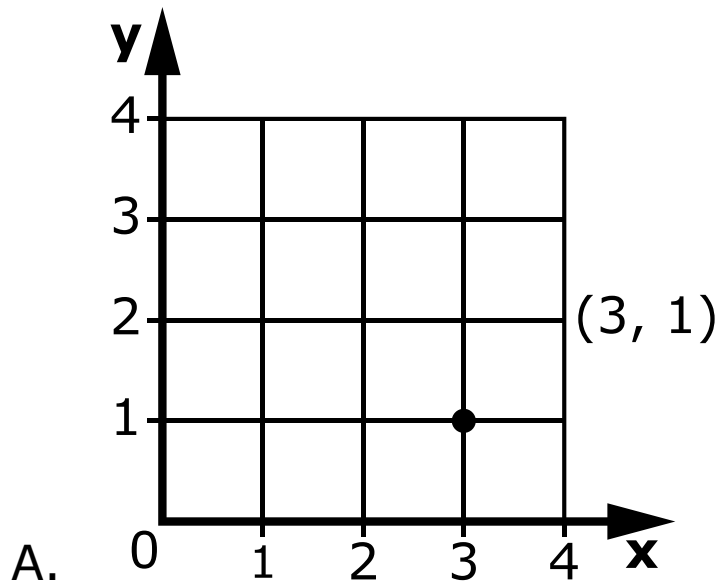
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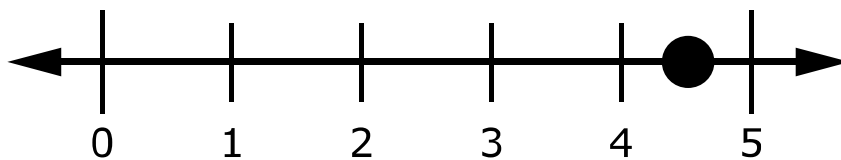
Incomplete Graph, "Paper Recycling"

Session 2

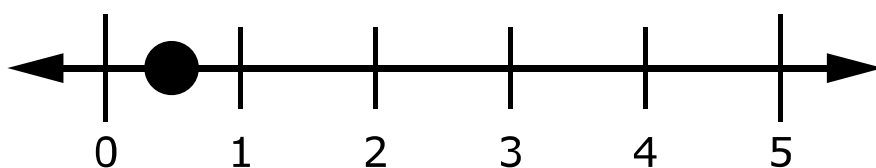
Session 2 – Item 21 Answer Options



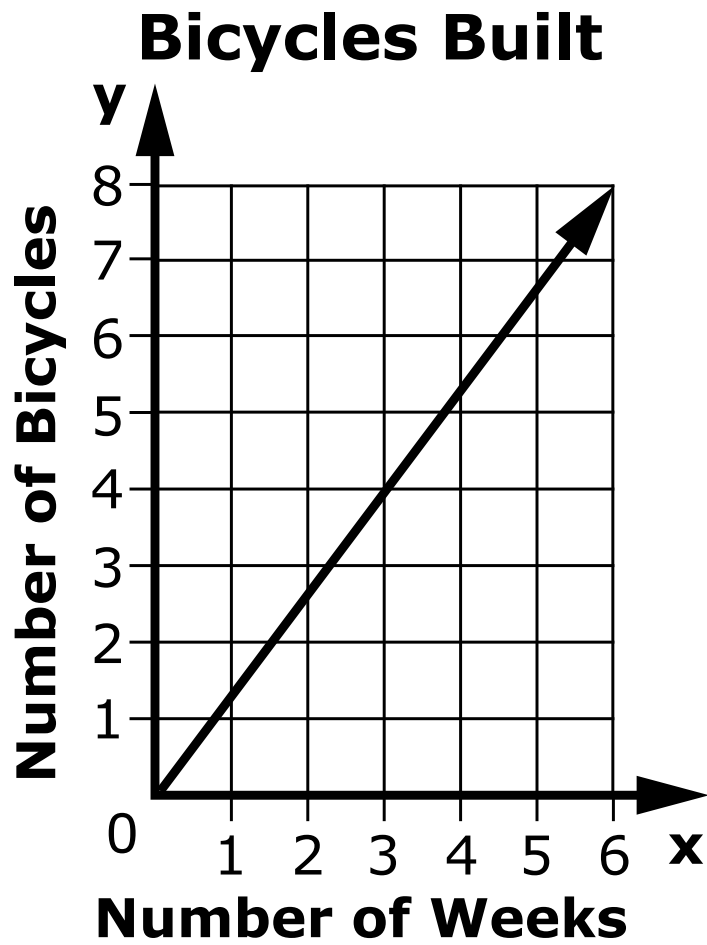
Session 2 – Item 22 Answer Options



A. between four and five



B. between zero and one



Graph 7, "Bicycles Built"

Session 2 – Item 23 Answer Options

A. less than 3 weeks

B. more than 3 weeks

Session 2 – Item 24 Answer Options

A. The area of the desk **increased**.

B. The area of the desk **decreased**.

C. The area of the desk stayed the **same**.

$$\text{Volume} = \pi \times \mathbf{r} \times \mathbf{r} \times \mathbf{h}$$

$$\text{Volume} = _ \times _ \times _ \times _$$

Formula 2, Volume of a Cylinder

Session 2 – Item 25 Answer Options

A. 24 cu. in

B. 301.44 cu. in

C. 452.16 cu. in

Session 2 – Item 26 Answer Options

A. 6

B. 40

C. 54

$$\text{Area} = \text{Length} \times \text{Width}$$

$$\text{Area} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$

Formula 3, Area of a Rectangle

Session 2 – Item 27 Answer Options

- A. The area of the mirror **increased** by 10 square inches.

- B. The area of the mirror **decreased** by 10 square inches.

- C. The area of the mirror stayed the **same** 30 square inches.

Ticket Sales

| Tickets Sold | Money Collected (in dollars) |
|---------------------|-------------------------------------|
| 1 | 2 |
| 4 | 8 |
| 8 | 16 |

Data Table 2, "Ticket Sales"

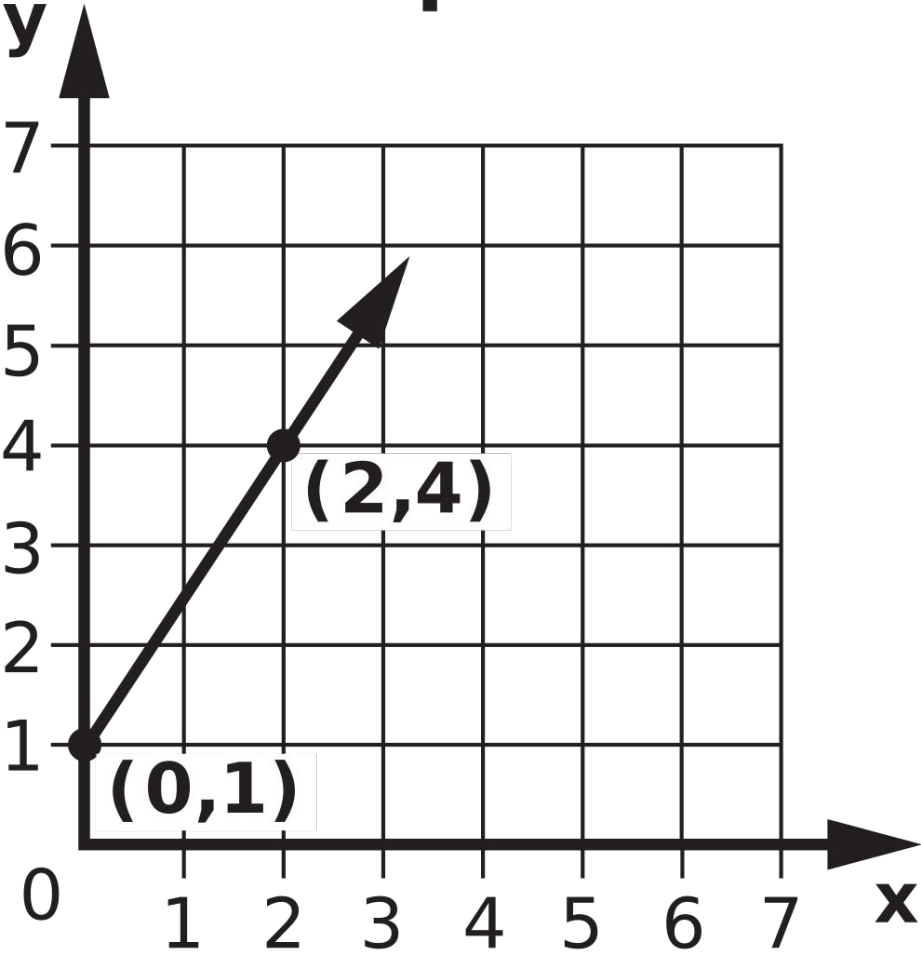
Session 2 – Item 28 Answer Options

- A. When **fewer** tickets were sold, **more** money was collected.

- B. When **more** tickets were sold, **less** money was collected.

- C. When **more** tickets were sold, **more** money was collected.

Graph B



Graph 8, "Graph B"

Session 2 – Item 29 Answer Options

A. $\frac{2}{3}$

B. $\frac{3}{2}$

C. $\frac{4}{2}$

Session 2 – Item 30 Answer Options

A. point A

B. point B

C. point C

$$\text{Volume} = \pi \times r \times r \times h$$
$$\text{Volume} = _ \times _ \times _ \times _$$

Formula 4, Volume of a Cylinder

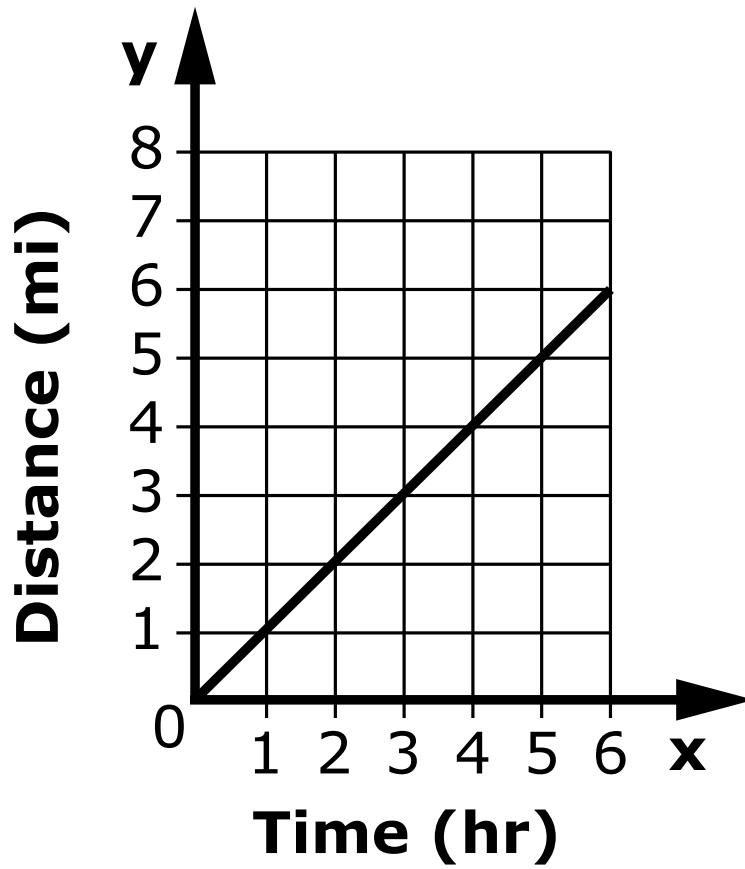
Session 2 – Item 31 Answer Options

A. $\text{Volume} = 3.14 \times 4 \times 4 \times 10$

B. $\text{Volume} = 3.14 \times 3.14 \times 10$

C. $\text{Volume} = 3.14 \times 4 \times 10 \times 10$

Distance Hiked



Graph 9, "Distance Hiked"

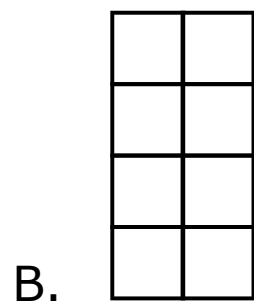
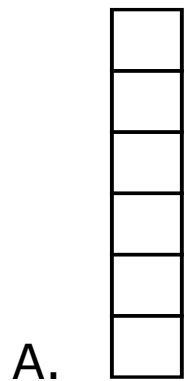
Session 2 – Item 32 Answer Options

A. positive linear

B. negative linear

C. nonlinear

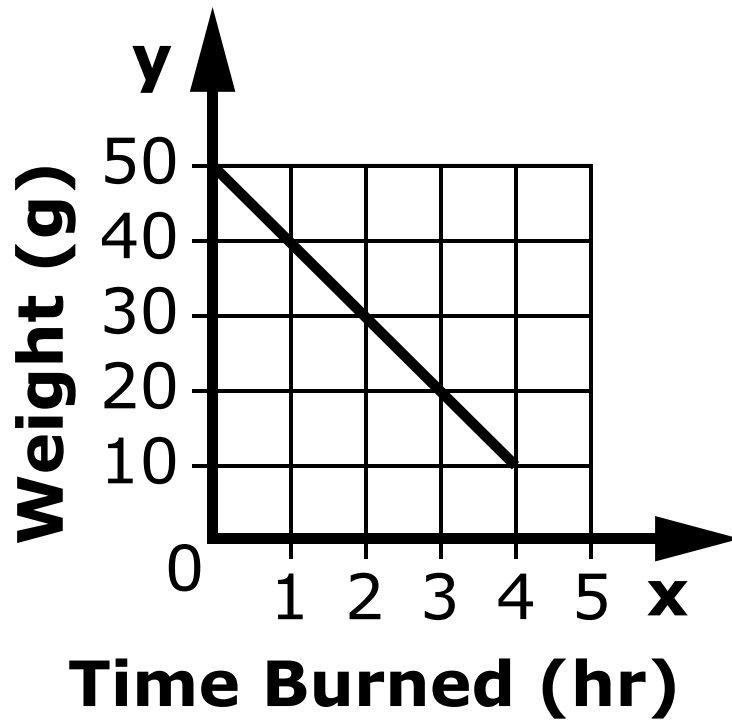
Session 2 – Item 33 Answer Options



C.

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Candle B



Graph 10, "Candle B"

Session 2 – Item 34 Answer Options

- A. Candle B's weight **decreases** by 5 grams each hour it is burned.

- B. Candle B's weight **decreases** by 10 grams each hour it is burned.

- C. Candle B's weight **decreases** by 15 grams each hour it is burned.

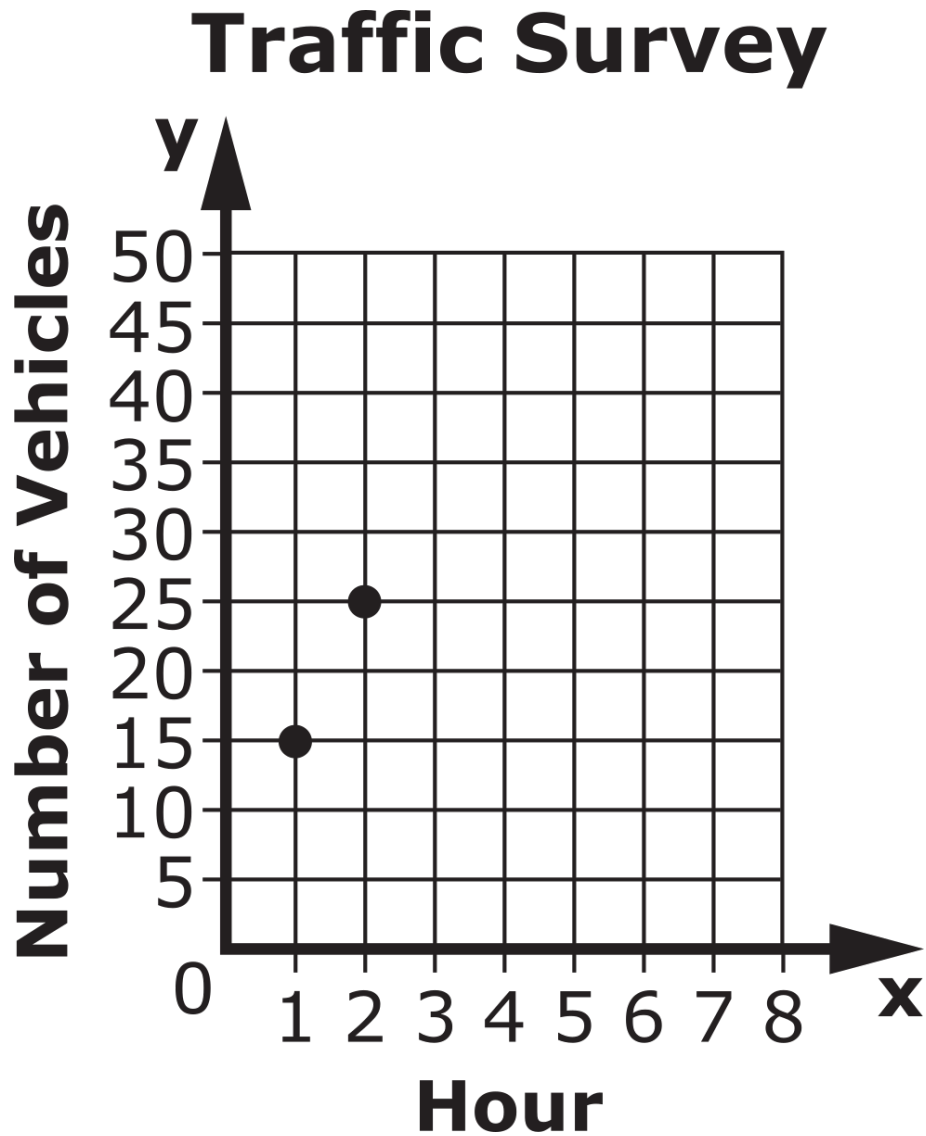
Traffic Survey

| Hour | Number of Vehicles |
|-------------|---------------------------|
| 1 | 15 |
| 2 | 25 |
| 3 | 30 |

Table 2, "Traffic Survey"

Session 2 – Item 35

The following will need to be reproduced and cut out for student use. A small object or marker is also required.



Incomplete Graph, "Traffic Survey"

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Practice Test