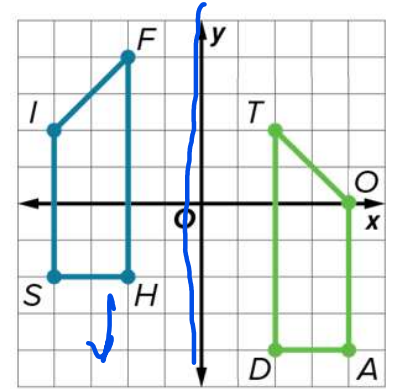


Practice EOT - Grade8 – Term3 – Reveal Math

Name: _____ Class: _____

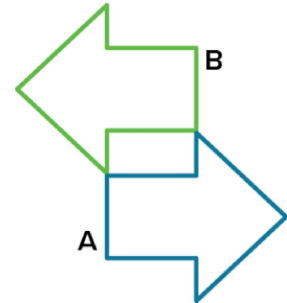
1) Trapezoid FISH is congruent to trapezoid TOAD. Determine which sequence of transformations maps trapezoid FISH onto trapezoid TOAD.

- A) Reflect across the x-axis and then translate it 2 units up. X
- B) Reflect across the x-axis and then translate it 2 units down. X
- C) Reflect across the y-axis and then translate it 2 units up. ✓
- D) Reflect across the y-axis and then translate it 2 units down. ✓



2) What transformations could be used to create the graphic if Figure A is the preimage and Figure B is the image?

- A) Dilation and then translation. X
- B) Reflection followed by a translation. ✓
- C) Reflection. X
- D) Dilation. X



3) Chose the pair of figures that are not congruent.

A)

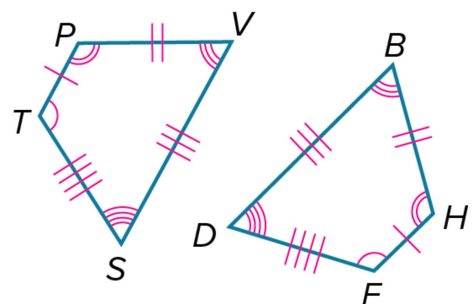
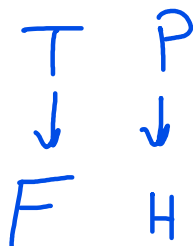
B)

C)

D)

4) Which congruence statement describes the trapezoids shown?

- A) TPVS \cong DBHF
- B) TPVS \cong HFDB
- C) TPVS \cong FHBD
- D) TPVS \cong FDBH



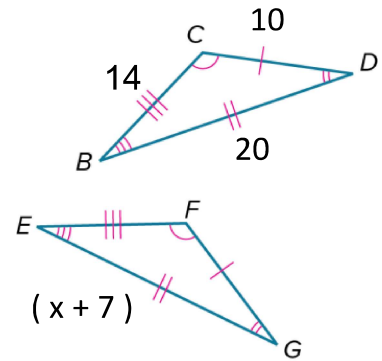
5) In the figure, $\triangle CDB \cong \triangle FGE$. Find the value of x .

- A) $x = 13$
- B) $x = 20$
- C) $x = 7$
- D) $x = 27$

$$(x + 7) = 20$$

$$x = 20 - 7$$

$$x = 13$$



6) Chose the pair of figures that are similar.

A) $\frac{20}{15} \neq \frac{5}{5}$

B) $\frac{9}{12} = \frac{5}{20}$

C) $\frac{5}{8} \neq \frac{4}{6}$

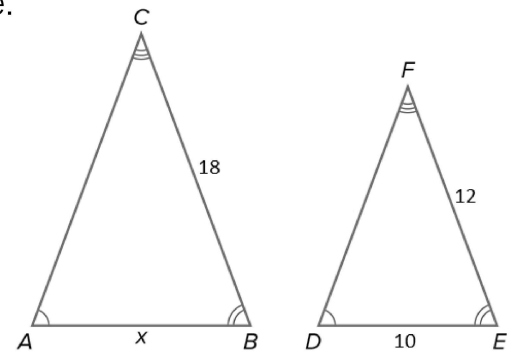
D) $\frac{24}{13} \neq \frac{36}{24}$

7) Sara creates a poster of the album cover of her favorite band. She enlarges the album cover by a scale factor of 2 and then enlarges the second image by a scale factor of 3. The album cover is 8 centimeters by 10 centimeters. What are the dimensions of the poster? *Bigger*

- A) 16 cm by 20 cm
 - B) 20 cm by 30 cm
 - C) 48 cm by 60 cm
 - D) 40 cm by 80 cm
- $8 \times 2 \times 3 = 48$
 $10 \times 2 \times 3 = 60$

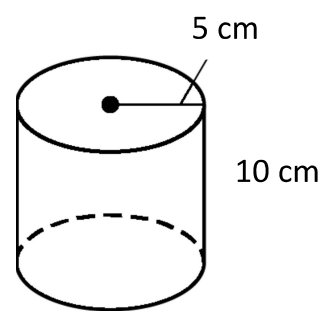
8) The two triangles are similar. Find the missing side measure.

- A) $x = 15$
 - B) $x = 10$
 - C) $x = 21.6$
 - D) $x = 20$
- $$\frac{12}{18} = \frac{10}{x}$$
- $$x = \frac{18 \times 10}{12} = 15$$



9) Find the volume of the cylinder.

- A) $50 \pi \text{ cm}^3$
 - B) $250 \pi \text{ cm}^3$
 - C) $15 \pi \text{ cm}^3$
 - D) $25 \pi \text{ cm}^3$
- $$V = \pi \times r^2 \times h$$
- $$V = \pi \times 5^2 \times 10$$
- $$V = 25 \times 10 \times \pi$$
- $$V = 250 \pi \text{ cm}^3$$



10) Find the volume of the cylinder.

A) $60 \pi \text{ m}^3$

B) $100 \pi \text{ m}^3$

C) $360 \pi \text{ m}^3$

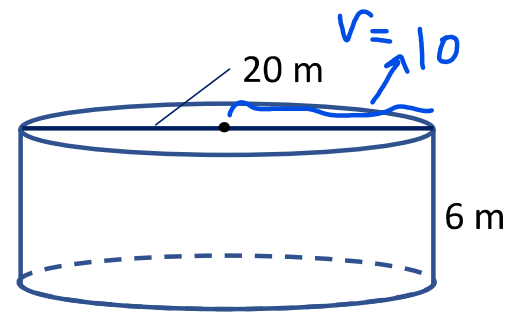
D) $600 \pi \text{ m}^3$

$$V = \pi \times r^2 \times h$$

$$V = \pi \times 10^2 \times h$$

$$V = \pi \times 100 \times 6$$

$$V = 600 \pi \text{ m}^3$$



11) Find the volume of the cone.

A) $3 \pi \text{ yd}^3$

B) $81 \pi \text{ yd}^3$

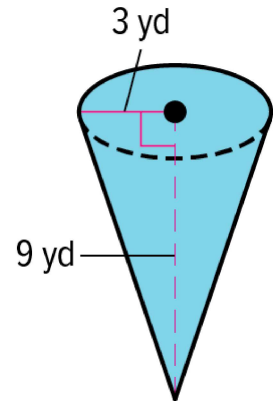
C) $27 \pi \text{ yd}^3$

D) $12 \pi \text{ yd}^3$

$$V = \frac{1}{3} \times \pi \times r^2 \times h$$

$$V = \frac{1}{3} \times \pi \times 3^2 \times 9$$

$$V = 27 \pi \text{ yd}^3$$



12) Find the volume of the cone.

A) $400 \pi \text{ m}^3$

B) $240 \pi \text{ m}^3$

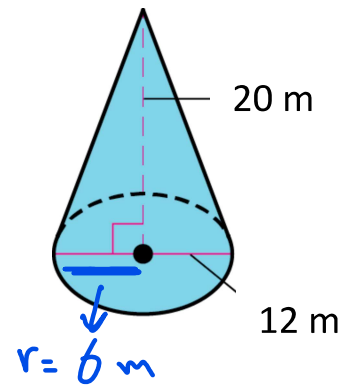
C) $144 \pi \text{ m}^3$

D) $2880 \pi \text{ m}^3$

$$V = \frac{1}{3} \times \pi \times r^2 \times h$$

$$V = \frac{1}{3} \times \pi \times 6^2 \times 20$$

$$V = 240 \pi \text{ m}^3$$



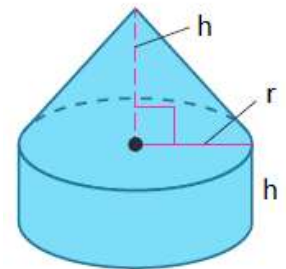
13) Choose the formula that represent the volume of the shown solid.

A) $\frac{1}{3} \pi r^2 h - \pi r^2 h$

B) $\frac{1}{3} \pi r^2 h + \pi r^2 h$

C) $\frac{4}{3} \pi r^2 h + \pi r^2 h$

D) $\frac{4}{3} \pi r^2 h - \pi r^2 h$



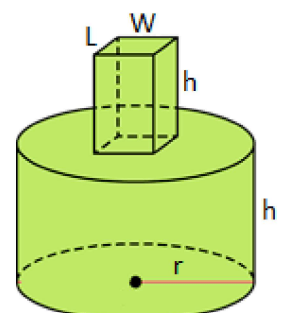
14) Choose the formula that represent the volume of the shown solid.

A) $Lwh - \pi r^2 h$

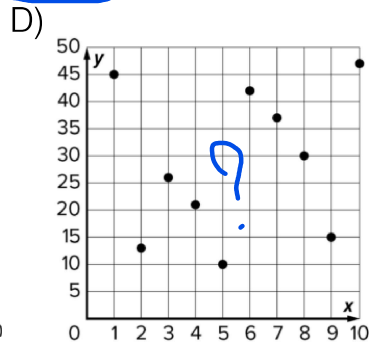
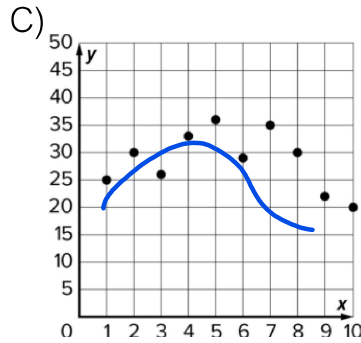
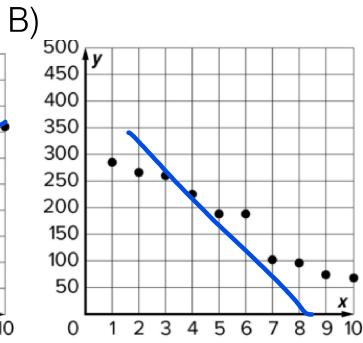
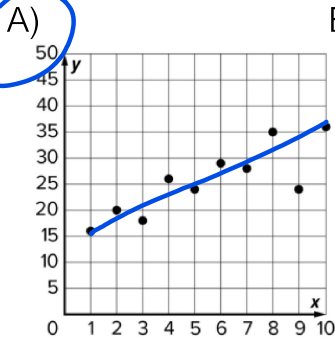
B) $L+w+h + \pi r^2 h$

C) $Lwh + \pi r^3 h$

D) $Lwh + \pi r^2 h$

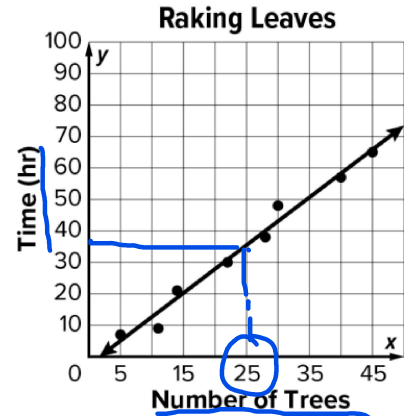


15) Choose the scatter plot of the data which shows a linear positive association.



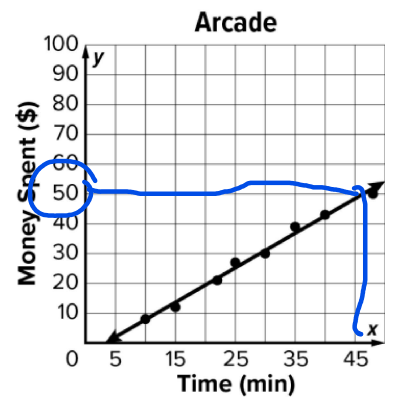
16) Use the line of fit to make a conjecture about the number of trees on a property that takes a person 35 hours to rake.

- A) 15 trees
- B) 45 trees
- C) 25 trees
- D) 50 trees



17) Use the line of fit to make a conjecture about the amount of money spent after 45 minutes at the arcade.

- A) \$100
- B) \$35
- C) \$15
- D) \$48



18) The scatter plot shows. Write an equation for the line of fit.

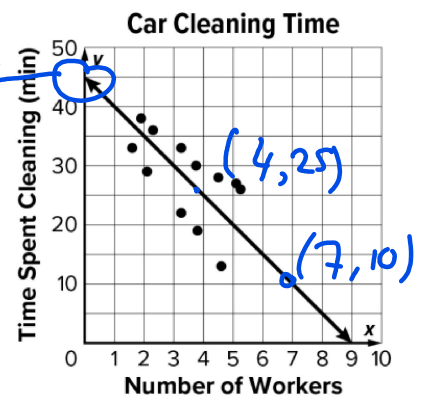
A) $y = 5x + 45$

B) $y = -5x + 45$

C) $y = 5x$

D) $y = -\frac{1}{5}x + 45$

$$m = \frac{25 - 10}{4 - 7} = \frac{15}{-3} = -5$$



19) The scatter plot shows. Write an equation for the line of fit.

A) $y = 2.5x + 3$

B) $y = -2.5x + 3$

C) $y = 2.5x$

D) $y = -2.5x$

$$m = \frac{18 - 8}{6 - 2} = \frac{10}{4} = +2.5$$



20) Find the volume of the sphere.

A) $V = \frac{1000}{3} \pi \text{ yd}^3$

B) $V = \frac{4000}{3} \pi \text{ yd}^3$

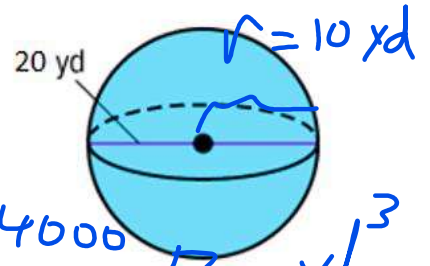
C) $V = \frac{8000}{3} \pi \text{ yd}^3$

D) $V = \frac{400}{3} \pi \text{ yd}^3$

$$V = \frac{4}{3} \times \pi \times r^3$$

$$V = \frac{4}{3} \times \pi \times 10^3$$

$$V = \frac{4}{3} \times \pi \times 1000 = \frac{4000}{3} \pi \text{ yd}^3$$



21) Find the volume of the hemisphere.

A) $V = \frac{9}{4} \pi \text{ cm}^3$

B) $V = \frac{9}{2} \pi \text{ cm}^3$

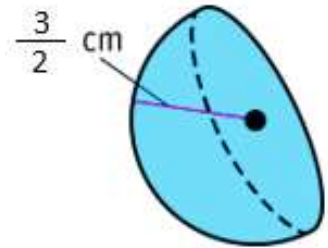
C) $V = \frac{81}{16} \pi \text{ cm}^3$

D) $V = \frac{27}{8} \pi \text{ cm}^3$

$$V = \frac{2}{3} \times \pi \times r^3$$

$$V = \frac{2}{3} \times \pi \times \left(\frac{3}{2}\right)^3$$

$$V = \frac{2}{3} \times \pi \times \frac{27}{8} = \frac{9}{4} \pi$$



22) The volume of a cone is $50\pi \text{ cm}^3$ and the radius is 5 cm. Find the height.

A) $h = 2 \text{ cm}$

B) $h = 5 \text{ cm}$

C) $h = 6 \text{ cm}$

D) $h = 10 \text{ cm}$

$$V = \frac{1}{3} \times \pi \times r^2 \times h$$

$$50\pi = \frac{1}{3} \times \pi \times 5^2 \times h$$

$$50 = \frac{1}{3} \times 25 \times h$$

$$h = \frac{50 \times 3}{25}$$

$$h = \frac{2 \times 3}{1}$$

$$h = 6 \text{ cm}$$

23) The volume of sphere is $36\pi \text{ cm}^3$. Find r .

A) $r = 27 \text{ cm}$

B) $r = 27 \pi \text{ cm}$

C) $r = 3 \pi \text{ cm}$

D) $r = 3 \text{ cm}$

$$V = \frac{4}{3} \times \pi \times r^3$$

$$36\pi = \frac{4}{3} \times \pi \times r^3$$

$$r^3 = \frac{36 \times 3}{4} = 9 \times 3 = 27$$

$$r = \sqrt[3]{27}$$

$$r = 3 \text{ cm}$$

24) 1) The volume of a cylinder is $40\pi \text{ cm}^3$ and the radius is 2 cm. Find the height.

A) $h = 44 \text{ cm}$

B) $h = 10 \text{ cm}$

C) $h = 20 \text{ cm}$

D) $h = 80 \text{ cm}$

$$V = \pi \times r^2 \times h$$

$$40\pi = \pi \times 2^2 \times h$$

$$40\pi = \pi \times 4 \times h$$

$$10 = h$$

25) The volume of a cylinder is 54π cubic inches and the height is 6 inches. Find the radius.

A) $r = 3 \text{ in}$

B) $r = 9 \text{ in}$

C) $r = 6 \text{ in}$

D) $r = 18 \text{ in}$

$$V = \pi \times r^2 \times h$$

$$54\pi = \pi \times r^2 \times 6$$

$$\frac{54}{6} = r^2$$

$$r^2 = 9$$

$$r = \sqrt{9}$$

$$r = 3 \text{ in}$$

26) The volume of a cone is $\frac{24}{3}\pi$ cm³. Its height is 6 cm. Find the radius.

A) $r = 12$ cm

B) $r = 48$ cm

C) $r = 4$ cm

D) $r = 2$ cm

$$V = \frac{1}{3} \times \pi \times r^2 \times h$$

$$\frac{24}{3} \pi = \frac{1}{3} \times \pi \times r^2 \times 6$$

$$4 = r^2 \rightarrow r = \sqrt{4} = 2 \text{ cm}$$

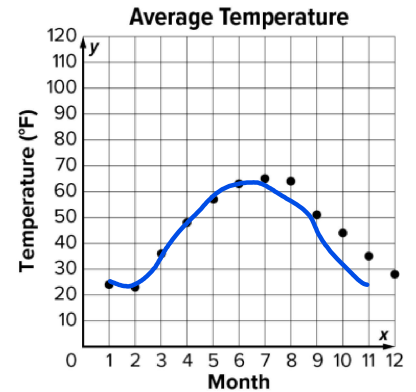
27) The scatter plot shows the relationship between the average temperature in a town and the month that the temperature reading is taken.

A) There is a linear association. **x**

B) There are no clusters and one outliers. **x**

C) The temperature increases as the months progress.

D) The temperature increases and then decreases as the months progress.



28) The table shows the results of a survey that asked customers of an ice cream store. Find the relative frequencies by row of customers who likes both cone and chocolate.

A) $\frac{5}{7} = 0.71$

B) $\frac{3}{7}$

$$\frac{10}{14} = \frac{5}{7}$$

C) $\frac{5}{8}$

D) $\frac{5}{14}$

	vanilla	chocolate	Total
Cup	8	6	14
Cone	4	10	14
Total	12	16	28

29) Two basketball teams, the Dragons and the Eagles, play a game. Find the value of x in the two-way table summarizing the data.

A) 50

B) 70

$$30 - 20 = 10$$

C) 10

D) 20

	Points	No Points	Total
Dragons	<u>20</u>	<u>x</u>	30
Eagles	40	30	70
Total	60	40	100

30) The table shows the results of a survey of vehicle ownership by people who live in urban or rural areas. Which of the following conclusions is correct?

A) The data suggest that there is no association between location and vehicle ownership.

B) A person chosen at random who has no vehicle is less likely to live in an urban area.

C) A person chosen at random who has no vehicle is more likely to live in an urban area.

D) A person chosen at random who has vehicle is more likely to live in an urban area.

	Urban	Rural
Vehicle	0.72	0.88
No Vehicle	0.28	0.12
Total	1.00	1.00

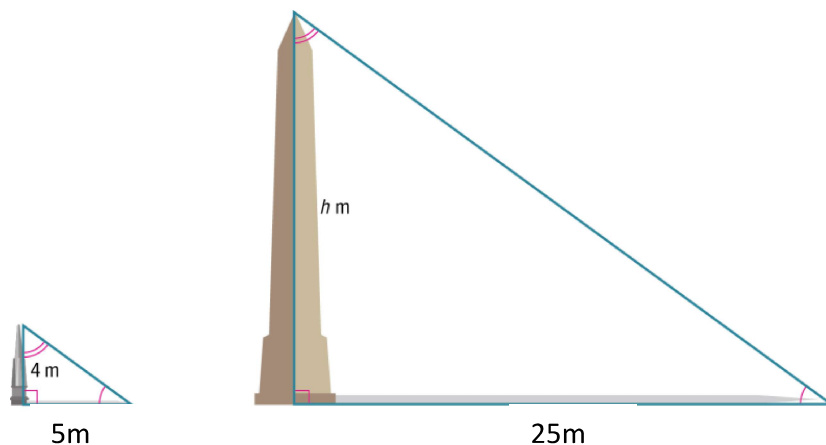
Part 3 (FRQ) - 6-7 Questions, Paper based: 20 mark

1) An obelisk casts a 25m shadow at the same time that a nearby monument casts a 5m shadow. If the monument is 4 meters tall, how tall is the obelisk?

$$\frac{h}{4} = \frac{25}{5}$$

$$h = \frac{4 \times 25}{5}$$

$$h = 20 \text{ m}$$

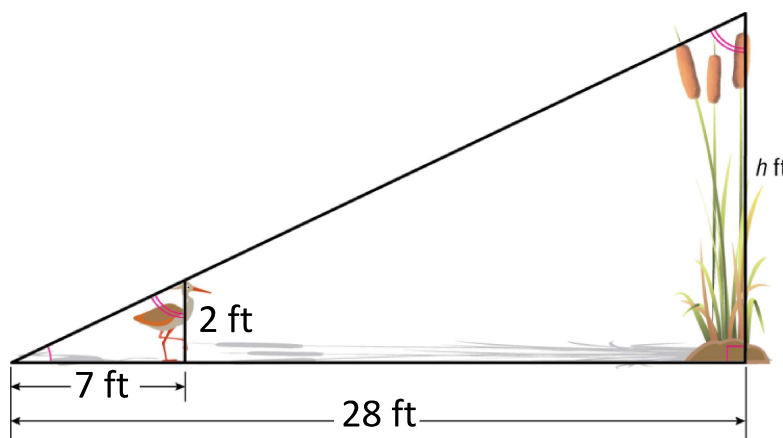


2) At the same time that a 2-foot-tall heron casts a 7-foot shadow, a nearby reed casts a 28-foot shadow. How tall is the reed?

$$\frac{h}{2} = \frac{28}{7}$$

$$h = \frac{28 \times 2}{7}$$

$$h = 8 \text{ ft}$$

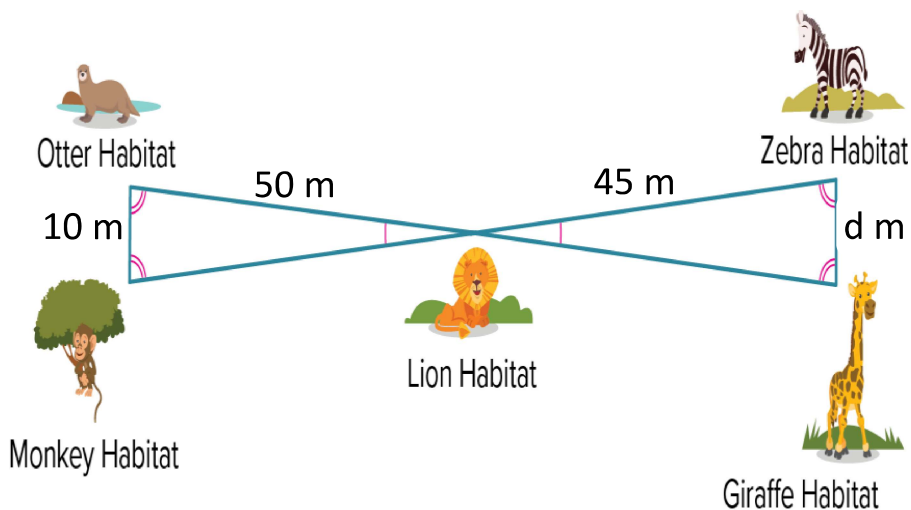


3) In the figure, the triangles are similar. What is the distance d from the zebra habitat to the giraffe habitat?

$$\frac{d}{10} = \frac{45}{50}$$

$$d = \frac{10 \times 45}{50}$$

$$d = 9 \text{ m}$$



- 4) The volume of a cylinder is 1600π cubic centimeters. The height is 16 centimeters. What is the radius of the cylinder?

$$V = \pi \times r^2 \times h$$

$$\cancel{1600\pi} = \cancel{\pi} \times r^2 \times \cancel{16}$$

$$100 = r^2$$

$$r = \sqrt{100} = 10 \text{ cm}$$

- 5) The volume of a cylinder is 63π cubic millimeters and the radius is 3 millimeters. What is the height of the cylinder?

$$V = \pi \times r^2 \times h$$

$$63\pi = \pi \times 3^2 \times h$$

$$63\pi = \pi \times 9 \times h$$

$$h = \frac{\cancel{63} \times \cancel{\pi}}{\cancel{9} \times \cancel{\pi}}$$

$$h = 7 \text{ mm}$$

- 6) The volume of a cone is $\frac{810}{3}\pi$ cubic yards. The height is 10 yards. Find the radius.

$$V = \frac{1}{3} \times \pi \times r^2 \times h$$

$$\frac{810}{3}\pi = \frac{1}{3} \times \pi \times r^2 \times 10$$

$$r^2 = \frac{\cancel{\frac{810}{3}} \times \cancel{\pi}}{\cancel{\frac{1}{3}} \times \cancel{10} \times \cancel{\pi}}$$

$$r^2 = 81 \rightarrow r = \sqrt{81} = 9$$

- 7) The volume of a cone is 15π cubic meters. Its radius is 3 meters. Find the height.

$$V = \frac{1}{3} \times \pi \times r^2 \times h$$

$$15\pi = \frac{1}{3} \times \pi \times 3^2 \times h$$

$$h = \frac{\cancel{15} \times \cancel{\pi}}{\cancel{\frac{1}{3}} \times \cancel{\pi} \times \cancel{9}} = 5 \text{ m}$$

- 8) The volume of a sphere is 288π cubic centimeters. Find the radius.

$$V = \frac{4}{3} \times \pi \times r^3$$

$$\cancel{288\pi} = \cancel{\frac{4}{3}} \times \cancel{\pi} \times r^3$$

$$r^3 = \frac{288}{\frac{4}{3}} = 216$$

$$r = \sqrt[3]{216} = 6 \text{ cm}$$

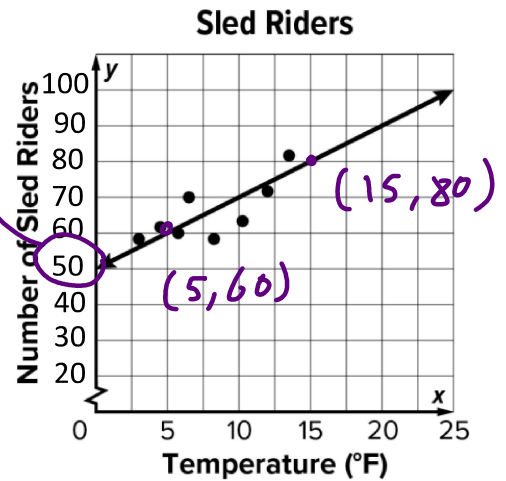
9) The scatter plot shows the relationship between the number of people who go sledding and the outside temperature. Write an equation in slope-intercept form for the line of fit that is drawn.

$$y = mx + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \frac{80 - 60}{15 - 5} = \frac{20}{10} = 2$$

$$y = 2x + 50$$



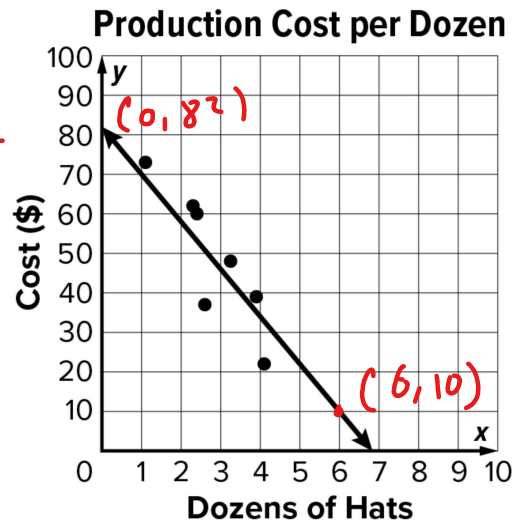
10) The scatter plot shows the relationship between the cost and the number of dozens of hats produced. Write an equation for the line of fit.

$$y = mx + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{82 - 10}{0 - 6} = \frac{72}{-6} = -12$$

$$b = 82$$

$$y = -12x + 82$$



Good Luck Boys

Answer Key Part 1 and 2

1	2	3	4	5	6	7	8	9	10
D	B	B	C	A	B	C	A	B	D
11	12	13	14	15	16	17	18	19	20
C	B	B	D	A	C	D	B	A	B
21	22	23	24	25	26	27	28	29	30
A	C	D	B	A	D	D	A	C	C

Part 3 -Paper based

Q1	$h = 20 \text{ m}$
Q2	$h = 8 \text{ ft}$
Q3	$d = 9 \text{ m}$
Q4	$r = 10 \text{ cm}$
Q5	$h = 7 \text{ mm}$
Q6	$r = 9 \text{ yd}$
Q7	$h = 5 \text{ m}$
Q8	$r = 6 \text{ cm}$
Q9	$y = 2x + 50$
Q10	$y = -12x + 82$

