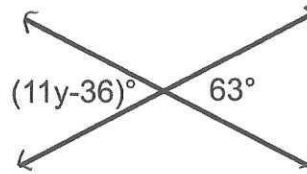


Review for 8R Midterm Part I's

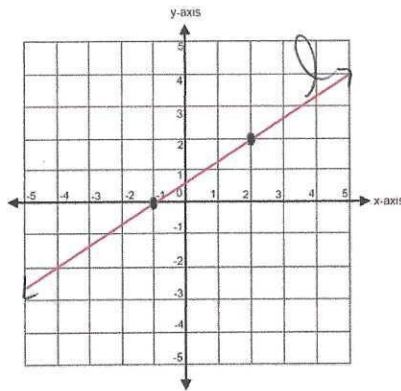
1) Which of the following set of ordered pairs is a function?

- a. $\{(1, -4), (-2, -5), (5, 5), (-2, 6)\}$
- b. $\{(5, 2), (3, 2), (-1, 2), (-1, 4)\}$
- c. $\{(-6, -1), (-3, -4), (0, -4), (-5, -4)\}$

2) What is the value of y in the diagram shown?



3) What is the rate of change of line l shown in the accompanying diagram?



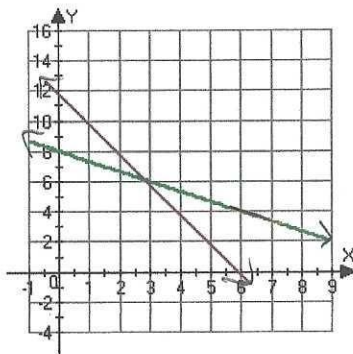
4) Which of the following is a **rational** number?

- 1) π
- 2) $\sqrt{56}$
- 3) $\frac{3}{8}$
- 4) 3.267839612...

5) Which is the equation for the line that passes through the points $(2,0)$ and $(0,3)$?

6) How many solutions does the equation $5x + 8 = 5x + 4$ have?

7) Which ordered pair is a solution to the system of equations shown below?



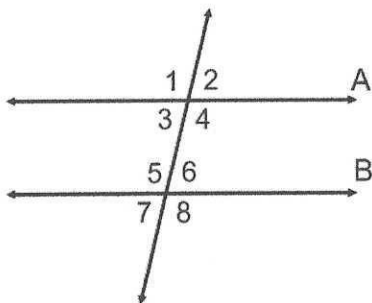
8) Find the volume, in cubic inches, of a **cone** with a radius of 4 and a height of 9. Round to the nearest tenth of an inch.

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

9) Evaluate: $x^8 \cdot x \cdot x^{-2}$

10) Which of the following is 0.0000467 expressed in scientific notation?

11) Lines A and B are parallel lines. The $m \angle 4$ is 120° . Find the $m \angle 5$.



12) Solve for x if $x^3 = 729$

13) Which ordered pair is the solution of the system shown?

$$\begin{aligned}8x - 6y &= 10 \\3x + 6y &= 12\end{aligned}$$

14) The equation of a line is $y = -3x - 3$. Which point lies on the line?

- 1) $(-4, 9)$
- 2) $(0, 3)$
- 3) $(-2, 2)$
- 4) $(-3, 0)$

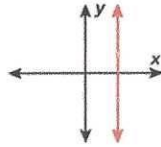
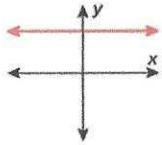
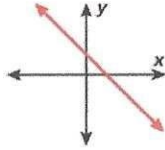
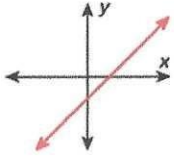
15) Solve for x:

$$3.2x + 5.7 = 1.7x + 10.2$$

16) What is the solution to the equation below?

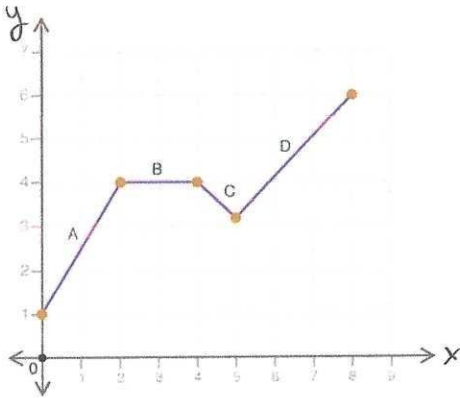
$$\frac{2}{3}(3x - 6) = 4$$

17) Which of the lines below has a slope of zero?

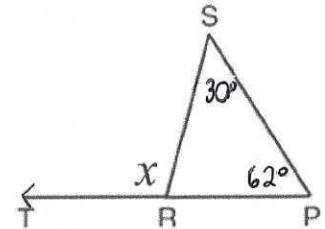


18) If two sides of a right triangle measure 12 inches and 16 inches, what is the length of the hypotenuse?

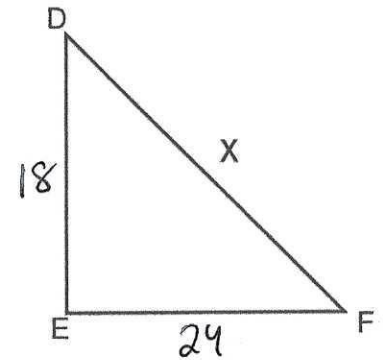
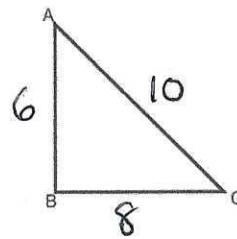
19) In which interval is the graph linear and increasing?



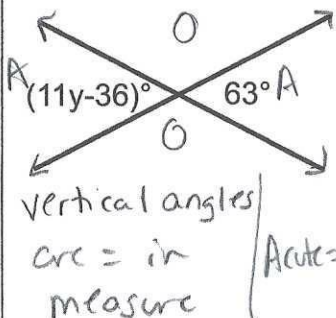
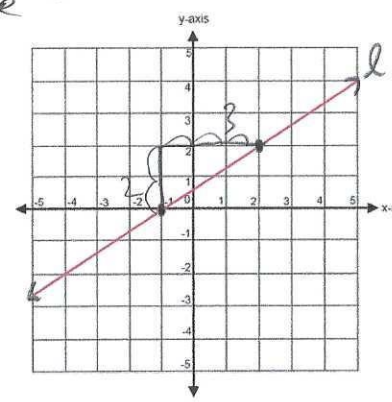
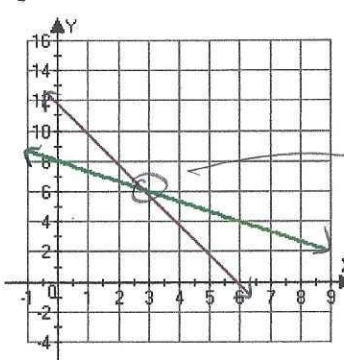
20) Find the value of x in the diagram shown.



21) Find the value of x if $\triangle ABC$ is similar to $\triangle DEF$.



Review for 8R Midterm Part I's

<p>1) Which of the following set of ordered pairs is a function? \rightarrow X-values don't repeat</p> <p>a. $\{(1, -4), (-2, -5), (5, 5), (-2, 6)\}$ b. $\{(5, 2), (3, 2), (-1, 2), (-1, 4)\}$ c. $\{(-6, -1), (-3, -4), (0, -4), (-5, -4)\}$</p>	<p>2) What is the value of y in the diagram shown?</p>  <p>Vertical angles are in measure Acute=Acute $y=9$</p> $11y - 36 = 63$ $\frac{11y}{11} = \frac{99}{11}$ $y = 9$
<p>3) What is the rate of change of line l shown in the accompanying diagram?</p> <p>$m = \frac{\text{rise}}{\text{run}}$</p> <p>$m = \frac{2}{3}$ Rate of change</p> 	<p>4) Which of the following is a rational number?</p> <p>1) π 2) $\sqrt{56}$ 3) $\frac{3}{8}$ 4) 3.267839612...</p> <p>Fractions are always rational</p>
<p>5) Which is the equation for the line that passes through the points (2,0) and (0,3)?</p> <p>$y = mx + b$ $m = -\frac{3}{2}$ $b = 3$ $y = -\frac{3}{2}x + 3$</p> <p>$m = \frac{y_2 - y_1}{x_2 - x_1}$ $m = \frac{3 - 0}{0 - 2}$ $m = -\frac{3}{2}$</p> <p>$(2, 0)$ $y = mx + b$ $0 = -\frac{3}{2}(2) + b$ $0 = -3 + b$ $+3 \quad +3$ $3 = b$</p>	<p>6) How many solutions does the equation $5x + 8 = 5x + 4$ have?</p> <p>$-5x \quad -5x$ $8 \neq 4$</p> <p>Zero/No solutions</p> <p>Always make the variables 1's</p>
<p>7) Which ordered pair is a solution to the system of equations shown below?</p> <p>Intersection point</p> <p>$(3, 6)$</p> 	<p>8) Find the volume, in cubic inches, of a cone with a radius of 4 and a height of 9. Round to the nearest tenth of an inch.</p> <p>$V = \frac{1}{3} \pi r^2 h$</p> <p>$V = \frac{1}{3} \pi (4)^2 \cdot 9$ $V = \frac{1}{3} \cdot \pi \cdot 16 \cdot 9$ $V = 150.8 \text{ in}^3$</p> <p>Use the π button</p>

9) Evaluate: $x^8 \cdot x \cdot x^{-2}$

$8+1-2$
 x^7

✶ Add the exponents

✶ Keep base

10) Which of the following is 0.0000467 expressed in scientific notation?

4.67×10^{-5}

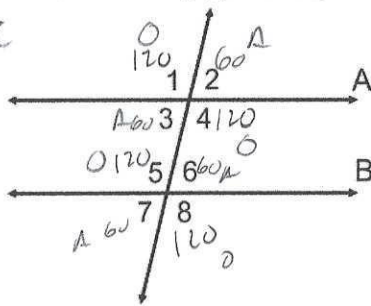
Negative b/c you started with a # smaller than 1

In calc: 2^{nd} | DRG | \rightarrow | $SC7$

11) Lines A and B are parallel lines. The $m \angle 4$ is 120° . Find the $m \angle 5$.

✶ Alternate interior arcs
 arc = in measure

obtuse = obtuse



$m \angle 5 = 120^\circ$

12) Solve for x if $x^3 = 729$

$\sqrt[3]{x^3} = \sqrt[3]{729}$

$x = 9$

In calc: 3 | 2^{nd} | n

13) Which ordered pair is the solution of the system shown?

Additive inverse
 $8x - 6y = 10$
 $+ 3x + 6y = 12$

 $11x = 22$
 $\frac{11x}{11} = \frac{22}{11}$

$x = 2$
 $8x - 6y = 10$
 $8(2) - 6y = 10$
 $16 - 6y = 10$
 $-16 \quad -16$

 $-6y = -6$
 $\frac{-6y}{-6} = \frac{-6}{-6}$
 $y = 1$

$(2, 1)$

14) The equation of a line is $y = -3x - 3$. Which point lies on the line?

- 1) $(-4, 9)$
- 2) $(0, 3)$
- 3) $(-2, 2)$
- 4) $(-3, 0)$

$(-4, 9)$
 $y = -3x - 3$
 $9 = -3(-4) - 3$
 $9 = 12 - 3$
 $9 = 9$
 ✓

✶ guess + check

15) Solve for x:

$3.2x + 5.7 = 1.7x + 10.2$
 Dist $-1.7x \quad -1.7x$

 Combine $1.5x + 5.7 = 10.2$
 $-5.7 \quad -5.7$

 Move $1.5x = 4.5$
 Solve $\frac{1.5x}{1.5} = \frac{4.5}{1.5}$

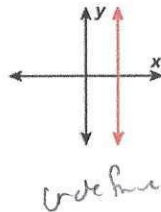
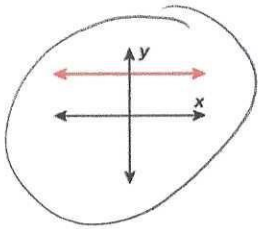
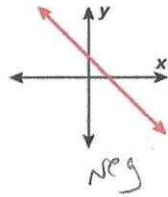
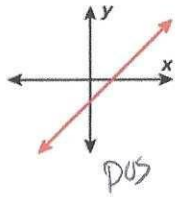
$x = 3$

16) What is the solution to the equation below?

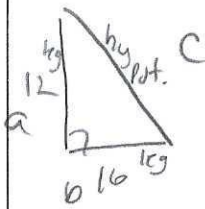
multi $\frac{2}{3}(3x - 6) = 4$ $2(4)(3)$
 Distr $2x - 4 = 4$
 Combine $+4 +4$

 Move $2x = 8$
 Solve $\frac{2x}{2} = \frac{8}{2}$
 $x = 4$

17) Which of the lines below has a slope of zero?



18) If two sides of a right triangle measure 12 inches and 16 inches, what is the length of the hypotenuse?



$$a^2 + b^2 = c^2$$

$$12^2 + 16^2 = c^2$$

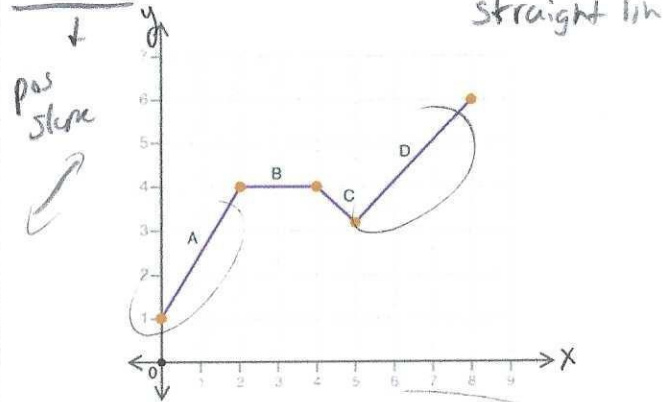
$$144 + 256 = c^2$$

$$\sqrt{400} = \sqrt{c^2}$$

$$C = 20 \text{ in}$$

2nd x^2

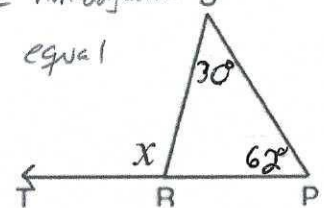
19) In which interval is the graph linear and increasing?



A: from $x=0$ to $x=2$ and
D: from $x=5$ to $x=8$

20) Find the value of x in the diagram shown.

The sum of the 2 non-adjacent interior angles is equal to the exterior angle.



$$x = 30 + 62$$

$$x = 92$$

$$m\angle x = 92^\circ$$

Add the two inside angles and set = to x .

21) Find the value of x if $\triangle ABC$ is similar to $\triangle DEF$.

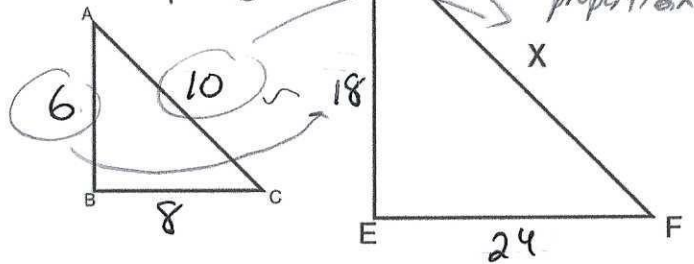
set up a proportion and cross multiply

$$\frac{6}{18} = \frac{10}{x}$$

$$\frac{6x}{6} = \frac{180}{6}$$

$$x = 30$$

Match up corresponding side



Corresponding sides are in proportion

read from left to right