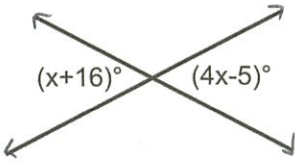
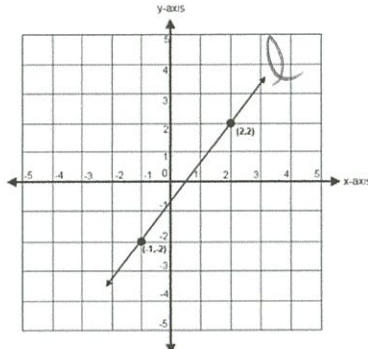
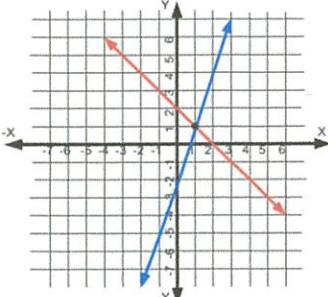


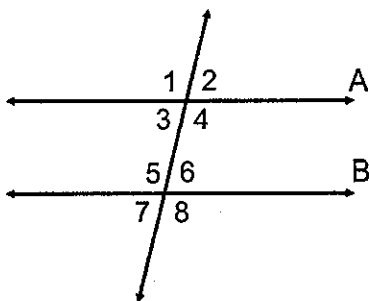
8R Midterm Extra Review Part I

<p>1) Which set of ordered pairs represents a function?</p> <p>a) (4,5), (2,3), (8,1), (4,6) b) (7,5), (-2,1), (8,5), (4,6) c) (-2,5), (-2,3), (8,1), (4,6) d) (9,2), (8,-3), (9,1), (7,-6)</p>	<p>2) What is the value of x in the diagram shown?</p> 
<p>3) What is the rate of change of line shown in the accompanying diagram?</p> 	<p>4) Which of the following is a rational number?</p> <p>1) π 2) $\sqrt{57}$ 3) $\frac{7}{8}$ 4) 9.7865201938472...</p>
<p>5) Which is the equation for the line that passes through the points (8,0) and (0,7)?</p>	<p>6) How many solutions does the equation $8x + 4 = 4(2x + 1)$ have?</p>
<p>7) What ordered pair is a solution to the system of equations shown below?</p> 	<p>8) Find the volume, in cubic inches, of a cone with a radius of 5 and a height of 10. Round to the nearest tenth inch.</p> $V = \frac{1}{3} \pi r^2 h$

9) Evaluate: $x^7 \cdot x \cdot x^{-7}$

10) What is 0.000000523 expressed in scientific notation?

11) Lines A and B are parallel lines. The $m \angle 3$ is 80° . Find the $m \angle 6$.



12) Solve for x if $x^3 = 216$

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

$$\begin{aligned} 3x + 2y &= 1 \\ 5x - 2y &= -9 \end{aligned}$$

14) The equation of a line is $y = -4x - 4$. Which point lies on the line?

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

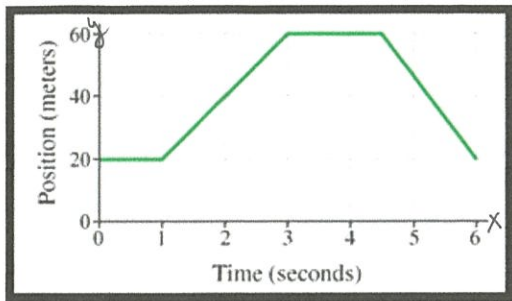
15) Solve for x :

$$4.83 + 4.41x = 11.65 + x$$

16) What is the solution to the equation below?

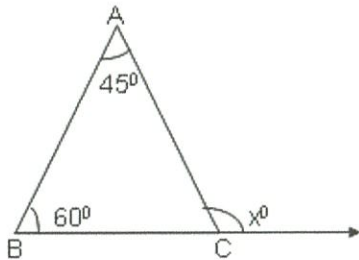
$$\frac{4}{5}(5x - 10) = 8$$

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

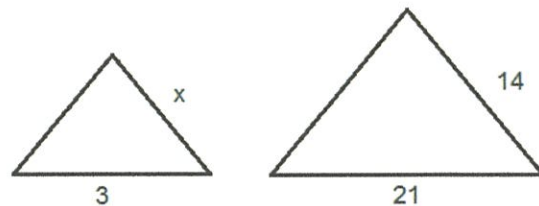


18) If two sides of a right triangle measure 15 inches and 20 inches, what is the length of the hypotenuse?

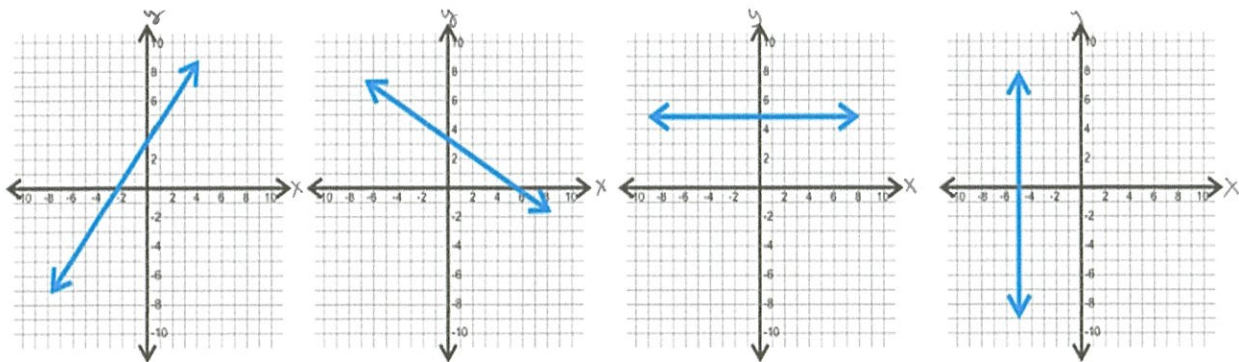
19) Find the value of x in the diagram shown



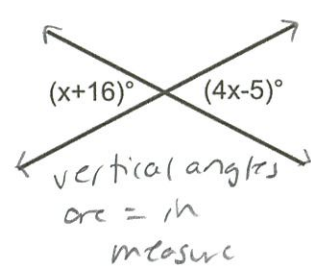
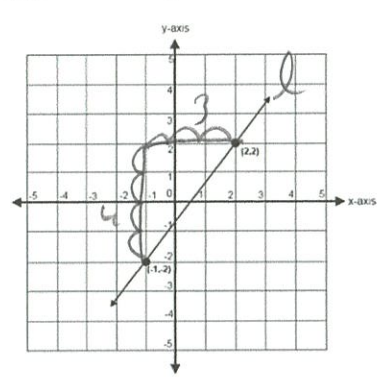
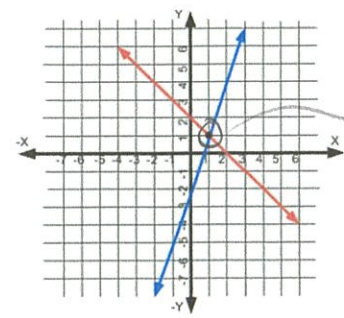
20) Find the value of x if the two triangles below are similar.



21) Which of the following graphs shows a line with a zero slope?



8R Midterm Extra Review Part I

<p>1) Which set of ordered pairs represents a function? \rightarrow <u>x-values do not repeat</u></p> <p>a) (4,5), (2,3), (8,1), (4,6) b) (7,5), (-2,1), (8,5), (4,6) c) (-2,5), (-2,3), (8,1), (4,6) d) (9,2), (8,-3), (9,1), (7,-6)</p>	<p>2) What is the value of x in the diagram shown?</p> $\begin{array}{r} x+16 = 4x-5 \\ -x \quad -x \\ \hline 16 = 3x-5 \\ +5 \quad +5 \\ \hline 21 = 3x \\ \frac{21}{3} = \frac{3x}{3} \\ \boxed{x=7} \end{array}$ 
<p>3) What is the <u>rate of change</u> of line shown in the accompanying diagram? \rightarrow <u>slope</u></p> <p>$m = \frac{\text{rise}}{\text{run}}$</p> <p>$m = \frac{4}{3}$</p> 	<p>4) Which of the following is a <u>rational</u> number?</p> <p>1) π 2) $\sqrt{57}$ 3) $\frac{7}{8}$ \rightarrow Fractions are <u>always</u> rational. 4) 9.7865201938472...</p>
<p>5) Which is the equation for the line that passes through the points (8,0) and (0,7)? \rightarrow <u>y-int</u></p> <p>$y = mx + b$</p> <p>$m = -\frac{7}{8}$ $b = ?$</p> <p>$y = -\frac{7}{8}x + 7$</p> <p> $m = \frac{y_2 - y_1}{x_2 - x_1}$ $m = \frac{7 - 0}{0 - 8}$ $m = \frac{7}{-8}$ $m = -\frac{7}{8}$ </p> <p> $y = mx + b$ (8,0) $0 = -\frac{7}{8}(8) + b$ $m = -\frac{7}{8}$ $0 = -7 + b$ $+7 \quad +7$ $7 = b$ </p>	<p>6) How many solutions does the equation $8x + 4 = 4(2x + 1)$ have? Distribute!</p> $\begin{array}{r} 8x + 4 = 8x + 4 \\ -8x \quad -8x \\ \hline 4 = 4 \end{array}$ <p>\rightarrow <u>MUST</u> move the variable 1st</p> <p>$\boxed{\text{Infinitely many}}$</p>
<p>7) What ordered pair is a solution to the system of equations shown below? \downarrow <u>where the lines intersect (intersection point)</u></p>  <p>$\boxed{(1, 1)}$</p>	<p>8) Find the volume, in cubic inches, of a cone with a radius of 5 and a height of 10. Round to the nearest tenth inch.</p> <p>$V = \frac{1}{3}\pi r^2 h$</p> <p>$V = \frac{1}{3} \pi r^2 h$ \rightarrow use π button</p> <p>$V = \frac{1}{3} \cdot \pi \cdot (5)^2 \cdot 10$</p> <p>$V = \frac{1}{3} \cdot \pi \cdot 25 \cdot 10$</p> <p>$\boxed{V = 261.8 \text{ in}^3}$</p>

9) Evaluate: $x^7 \cdot x \cdot x^{-7}$ Add the exponents

x^{7+1-7}

x^1 Keep base

10) What is 0.000000523 expressed in scientific notation?

5.23×10^{-7} Negative B/C it started as a # smaller than 1

Calc: $\boxed{2nd} \boxed{DRG} \rightarrow \boxed{5.23}$

11) Lines A and B are parallel lines. The $m \angle 3$ is 80° . Find the $m \angle 6$.

* Alternate interior angles are = in measure

acute = acute $\frac{180}{-80}$

$m \angle 6 = 80^\circ$

12) Solve for x if $x^3 = 216$

$\sqrt[3]{x^3} = \sqrt[3]{216}$

$x = 6$

Calc: $\boxed{3} \boxed{2nd} \boxed{\wedge}$

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

$$\begin{array}{r} 3x + 2y = 1 \\ + 5x - 2y = -9 \\ \hline 8x = -8 \\ \frac{8x}{8} = \frac{-8}{8} \\ x = -1 \end{array}$$

Substitute $x = -1$ into $3x + 2y = 1$:

$3(-1) + 2y = 1$
 $-3 + 2y = 1$
 $+3 \quad +3$
 $\frac{2y}{2} = \frac{4}{2}$
 $y = 2$

Answer: $(-1, 2)$

14) The equation of a line is $y = -4x - 4$. Which point lies on the line?

$$\begin{array}{l} (-2, 4) \\ y = -4x - 4 \\ 4 = -4(-2) - 4 \\ 4 = 8 - 4 \\ 4 = 4 \end{array}$$

x	y
1) -2	4
2) 0	4
3) -4	4
4) -4	0

Agree + check

15) Solve for x:

$$\begin{array}{r} 4.83 + 4.41x = 11.65 + 1x \\ \text{Dist} \quad \quad \quad -1x \quad \quad -1x \\ \hline 4.83 + 3.41x = 11.65 \\ \text{Combine} \quad \quad \quad -4.83 \quad \quad -4.83 \\ \hline 3.41x = 6.82 \\ \text{More Solve} \quad \quad \quad \frac{3.41x}{3.41} = \frac{6.82}{3.41} \\ x = 2 \end{array}$$

16) What is the solution to the equation below?

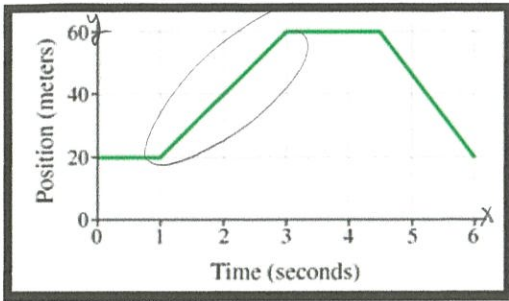
$\frac{4}{5}(5x - 10) = 8$ (4) (5)

$$\begin{array}{r} 4x - 8 = 8 \\ \text{Dist} \quad \quad \quad +8 \quad \quad +8 \\ \hline 4x = 16 \\ \text{More Solve} \quad \quad \quad \frac{4x}{4} = \frac{16}{4} \\ x = 4 \end{array}$$

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

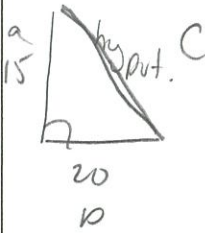
→ positive slope

straight line



from $x=1$ to $x=3$

18) If two sides of a right triangle measure 15 inches and 20 inches, what is the length of the hypotenuse?



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

$$15^2 + 20^2 = c^2$$

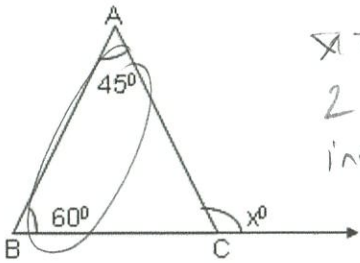
$$225 + 400 = c^2$$

$$\sqrt{625} = \sqrt{c^2}$$

$$c = 25$$

$$c = 25$$

19) Find the value of x in the diagram shown



The sum of the 2 non-adjacent interior \angle s is = to the exterior \angle

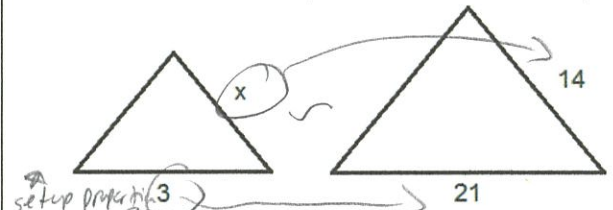
$$x = 45 + 60$$

$$x = 105$$

$$m\angle x = 105^\circ$$

20) Find the value of x if the two triangles below are similar.

Match up the corresponding sides
Corresponding sides are in proportion



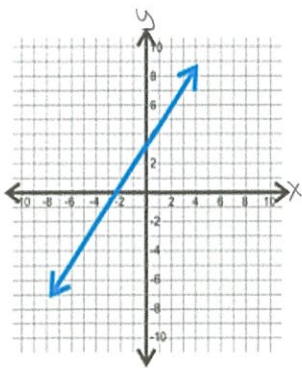
setup proportion
cross multiply

$$\frac{x}{14} = \frac{3}{21}$$

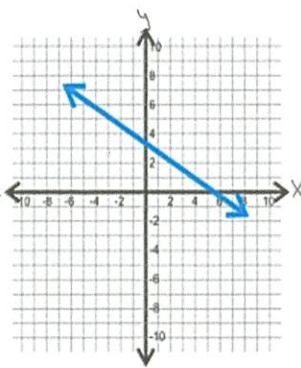
$$21x = 42$$

$$x = 2$$

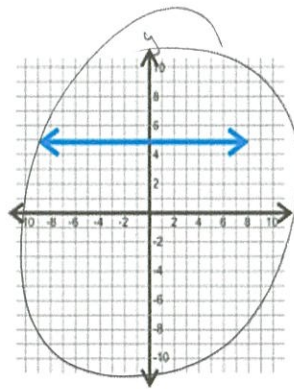
21) Which of the following graphs shows a line with a zero slope?



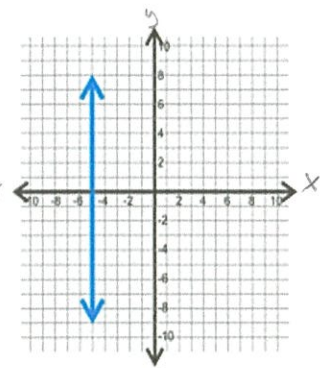
pos.



neg



zero



undefined