

QUARTER EXAM 2 REVIEW

GRAPH LINES

FROM SLOPE-INTERCEPT

FROM STANDARD FORM

VERTICAL & HORIZONTAL LINES

FROM TWO POINTS

SLOPE FORMULA

POINT-SLOPE FORM

PARALLEL & PERPENDICULAR LINES

LINEAR INEQUALITIES

VARIATION PROBLEMS

$$y = kx \quad y = \frac{k}{x} \quad y = kxz$$

EXPECT STORY PROBLEMS HERE

APPLICATION PROBLEMS LIKE FROM QE1

MIXTURES

RATES

(21)

$$D = R \cdot T = D$$

CAR 1	$2x$	x	2	$2x$
CAR 2	$2(x+10)$	$x+10$	2	$2(x+10)$

380 km

$$2x + 2(x+10) = 380$$

$$2x + 2x + 20 = 380$$
$$\underline{-20} \quad \underline{-20}$$

$$\frac{4x}{4} = \frac{360}{4}$$

$$x = 90 \text{ km/hr}$$

(22)

	LBS	COST PER LB	TOTAL COST
TYPE A	$117 - x$	4.10	$4.10(117 - x)$
TYPE B	x	5.75	$5.75x$
MIXTURE	117		<u>563.85</u>

$$4.10(117 - x) + 5.75x = 563.85$$

$$479.70 - 4.10x + 5.75x = 563.85$$
$$\begin{array}{r} -479.70 \\ \hline \end{array}$$

$$\begin{array}{r} \cancel{1.65}x = \frac{84.15}{1.65} \\ \hline \end{array}$$

$$x = 51 \text{ lbs}$$

$$\begin{array}{r} 51. \\ \hline 1.65 \overline{)84.15} \\ \underline{825} \\ 165 \\ \underline{165} \\ 0 \end{array}$$

GRAPH THE LINE THROUGH

$$(1, 3) \text{ \& } (2, 5)$$

$$(x_1, y_1) \quad (x_2, y_2)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - 3}{2 - 1} = \frac{2}{1}$$

$$y - y_1 = m(x - x_1)$$

$$y - 3 = 2(x - 1)$$

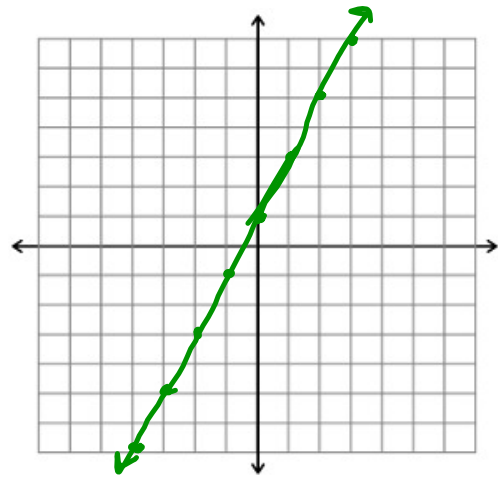
$$\begin{array}{r} y - 3 = 2x - 2 \\ \underline{+3} \qquad \underline{+3} \end{array}$$

$$y = 2x + 1$$

$$-2x + y = 1$$

$$y - 2x = 1$$

$$2x - y = -1$$



SLOPE INTERCEPT

$$y = mx + b$$

STANDARD FORM

$$Ax + By = C$$

POINT-SLOPE FORM

$$y - y_1 = m(x - x_1)$$

PARALLEL LINES HAVE THE SAME SLOPE
 $m_1 = m_2$

PERPENDICULAR LINES HAVE OPPOSITE RECIPROCAL SLOPES
 $m_1 m_2 = -1$ $m_1 = \frac{-1}{m_2}$

$$20x + 50y = 800$$

$-20x$

$$\frac{-20x}{\cancel{20x}}$$

$$\frac{50y}{\cancel{50}} = \frac{-20x + 800}{50}$$

$$y = -\frac{2}{5}x + 16$$

$$y\text{-INT: } 16$$

$$\text{SLOPE} = -\frac{2}{5}$$

VARIATION
#28 p 229

$$\frac{20}{5} = k \frac{5}{5}$$

$$k = 4$$

DIRECT $y = kx$

$$y = 4x$$

$$y = 4(6) = 24$$

#32 on p 229

JOINT

$$y = kxz$$

↑ ↑ ↙
tax number price per

$$\frac{26}{520} = \frac{k(8)(65)}{520}$$

$$k = .05$$

$$y = .05xz$$

$$y = .05(6)(90)$$

$$y = 27¢$$

#30 on p 229

INVERSE $\rightarrow y = \frac{k}{x}$

$$8(6) = \left(\frac{k}{8}\right) 8$$

$$k = 48$$

$$y = \frac{48}{x}$$

$$y = \frac{48}{12} = 4 \text{ cc}$$

$$\text{cc} = \text{cm}^3 = \text{mL}$$

#27 on p. 143

	#	\$/#	\$
CAS	20	4.80	4.80(20)
PIS	X	6.40	<u>6.40x</u>
MIX	20+x	5.40	5.40(20+x)

$$4.80(20) + 6.40x = 5.40(20+x)$$
$$\begin{array}{r} 96 + 6.4x = 108 + 5.4x \\ -96 \quad -5.4x \quad -96 \quad -5.4x \\ \hline \quad 1.0x = 12 \end{array}$$
$$x = 12 \text{ lbs}$$