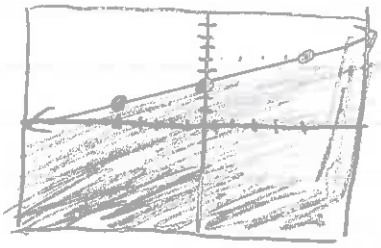
Review Answers

1. B
2. A
3. C
4. A
5. D
6. B
7. B
8. C
9. D
10. B

Short Answer

1. $5y - 2x \leq 15$
$5y \leq 2x + 15$
$y \leq \frac{2}{5}x + 3$



(see graph paper)

2. a) x = # hours at job 1 → \$9/h
y = # hours at job 2 → \$8.25/h

b) $x \in W$
$y \in W$

c) $x + y \leq 25$ $\quad x \geq 12 \quad y \leq 20$

$y \leq -x + 25$

d) see graph paper

e) (12,0) (12,13) (25,0)

f) Earnings = $9x + 8.25y$

g) $E = 9(12) + 8.25(0)$ or $9(12) + 8.25(13)$ or $9(25) + 8.25(0)$
$= 108$ $\quad 215.25 \quad 225$

2g) (25, 0) will allow him to maximize his earnings.

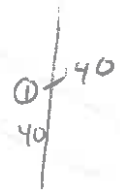
h) His maximum earnings will be \$225.00.

3.

n	use n to represent any #	
$n+2$	add 2	
$2n+2$	multiply by 2 ← error	
$2n+8$	add 6	
$n+4$	divide by 2	
$n-1$	subtract 5	

should be
$2n+4$
$2n+10$
$n+5$
n

4. Yes $140° + 40° = 180°$



$\angle 1 = 140°$ OAT
$\angle 1 + 40° = 180°$
$\therefore$ AB is parallel to CD.

5. a) $a = 104°$
$b = 76°$
$c = 76°$

b) $a = 36°$
$b = 108°$
$c = 108°$

6. a) $x = 40°$
$y = 95°$
$z = 45°$

b) $x = 68°$
$y = 112°$
$z = 40°$

7. $a = 60°$

8. $a = 36°$
$b = 72°$
$c = 72°$

9. $x = 17°$

10.

Statement	Reason
$QR \parallel ST$	Given
$\angle QRS = \angle TRS$	Given
$\angle QRS = \angle TSR$	alt. interior angles
$\angle TRS = \angle TSR$	substitution
$\triangle TSR$ is isosceles	definition isosceles $\triangle$
$ST = TR$	"

11. a) $\frac{\sin 58}{24.5} = \frac{\sin 55°}{x}$

$\boxed{x = 23.7m}$

b) $\frac{\sin 51}{31.2} = \frac{\sin \theta}{35.4}$

$\boxed{\theta = 61.9°}$

12. a) $a^2 = b^2 + c^2 - 2bc\cos A$

$x^2 = 5^2 + 6^2 - 2(5)(6)\cos 87$

$x^2 = 25 + 36 - 3.14$

$\sqrt{x^2} = \sqrt{57.86}$

$\boxed{x = 7.6m}$

b) $a^2 = b^2 + c^2 - 2bc\cos A$

$14^2 = 7^2 + 15^2 - 2(7)(15)\cos\theta$

$196 = 49 + 225 - 210\cos\theta$

$196 = 274 - 210\cos\theta$

$-78 = -210\cos\theta$

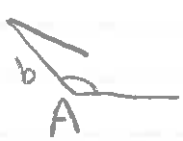
$0.3714 = \cos\theta$

$\boxed{68.2° = \theta}$

13. a) $\angle A$ is obtuse

$a \leq b$

no possible triange



b) not SSA

1 triangle

c) $\angle A$ is acute $a < b$

$h = b\sin A$

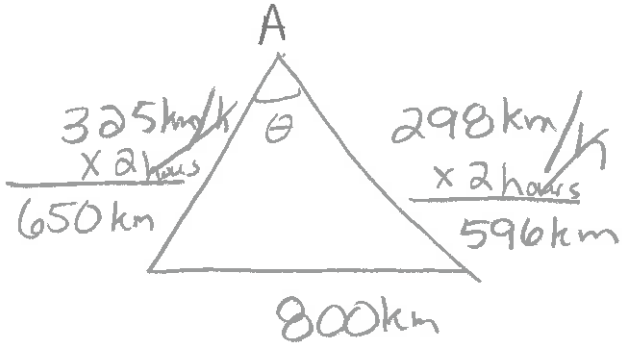
$= 12\sin 63$

$= 10.692$

$a < h$

no triangle

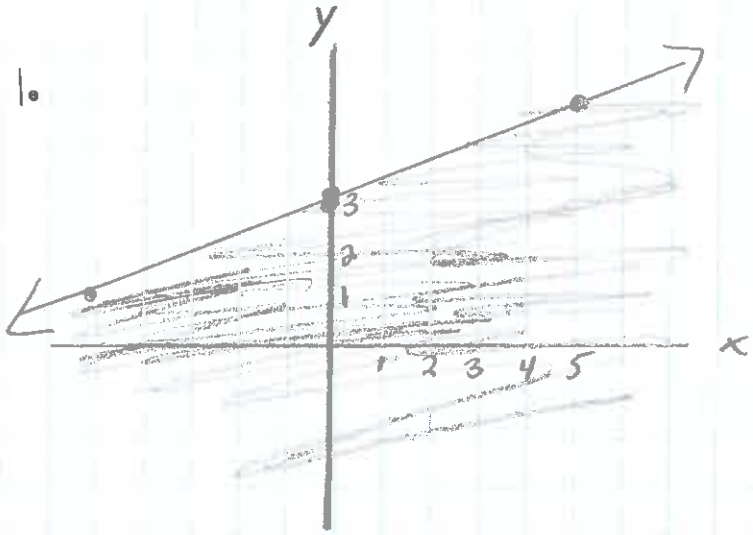
14.



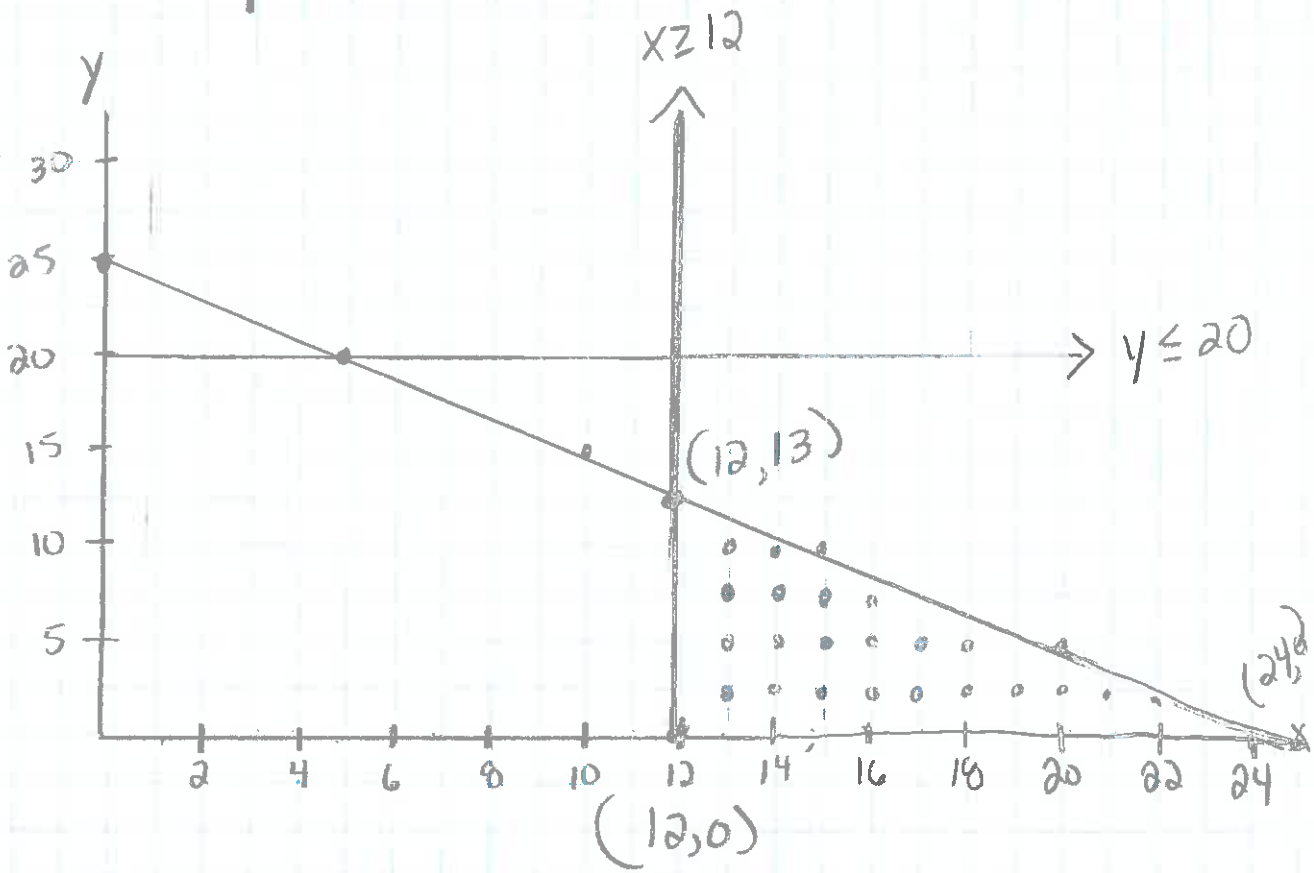
$$a^2 = b^2 + c^2 - 2bc\cos A$$
$$800^2 = 650^2 + 596^2 - 2(650)(596)\cos\theta$$
$$640000 = 422500 + 355216 - 774800\cos\theta$$
$$640000 = 777716 - 774800\cos\theta$$
$$-137716 = -774800\cos\theta$$
$$0.1777 = \cos\theta$$
$$\cos^{-1} 0.1777 = \theta$$
$$79.8^\circ = \theta$$

$$\boxed{80^\circ = \theta}$$

1.


y
x
3
2
1
1 2 3 4 5

2d)


y
x
$x \geq 12$
$y \leq 20$
(12,13)
(24,0)
(12,0)
30
25
20
15
10
5
2 4 6 8 10 12 14 16 18 20 22 24