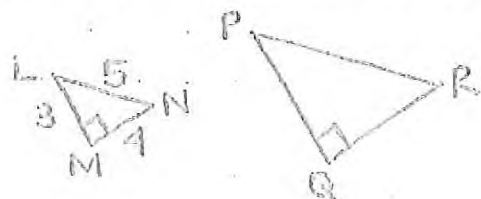


# Unit 2 Review Practice

#30

①  $\triangle LMN \sim \triangle PQR$



a)  $\sin P =$  \_\_\_\_\_

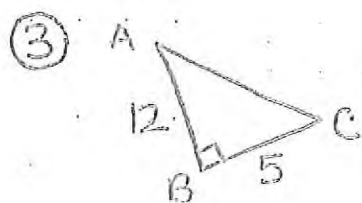
b)  $\tan R =$  \_\_\_\_\_

write the ratio as a decimal to 2 places.

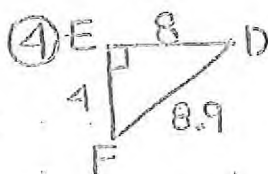
c)  $\sin R$  is congruent to what 3 trig ratios?

② a)  $\sin 29^\circ = \cos$  \_\_\_\_\_ $^\circ$

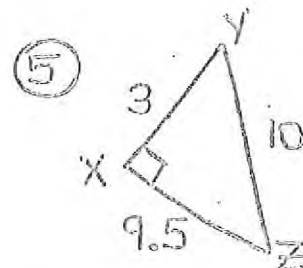
b)  $\cos 43^\circ = \sin$  \_\_\_\_\_ $^\circ$



$\cos A =$  \_\_\_\_\_

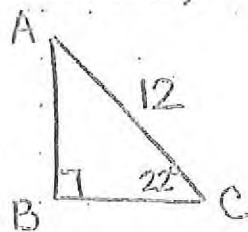


$\tan D =$  \_\_\_\_\_

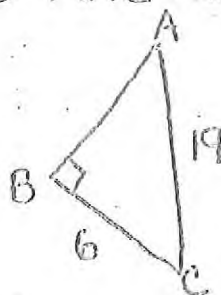


$\sin Z =$  \_\_\_\_\_

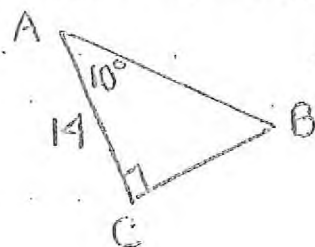
⑥ Find  $\overline{AB}$ ,  $\angle A$ .



⑦ Find  $\overline{AB}$ ,  $\angle C$ .



⑧ Find  $\overline{AB}$ ,  $\angle B$ .



⑨ The world's most powerful lighthouse is 50 meters tall. Suppose you are in a boat just off the coast, and the angle of elevation from the boat to the top of the lighthouse is  $12^\circ$ . How far is your boat from the base of the lighthouse?

## Unit 4 Review Practice

⑩ simplify each radical.

A)  $\sqrt{45}$

B)  $\sqrt{200}$

C)  $\sqrt{27}$

D)  $\sqrt{4x^2y^4z^{10}}$

E)  $\sqrt{12x^3y^7}$

F)  $\sqrt{x^2y^5z^{11}}$

⑪ Determine if the following numbers are rational or irrational.

A) 12

B)  $\pi$

C) 2.6

D)  $\frac{\sqrt{10}}{2}$

E)  $\frac{5}{7}$

F)  $\frac{1}{3}$

G)  $\sqrt{5}$

H)  $\frac{1}{5}$

I) -6

⑫ Add, subtract or multiply the polynomials.

A)  $(3x^2 + xy - 5y^2) - (2x^2 - xy + 3y^2)$

B)  $(6x^2 + 10x - 7) + (2x^2 + 4x)$

C)  $(x + 2y + 1)(3x - 4y + 5)$

D)  $(x^2 + 5x - 6) + (2x^2 - 7x)$

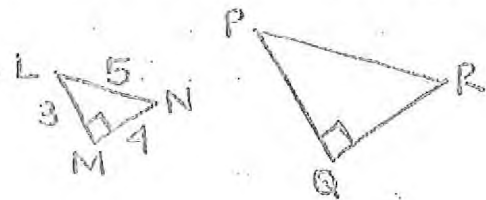
E)  $(5x^3 + 2x^2 + 1)(x^3 - 6x + 2)$

F)  $(12x^2 + 5x^3 + 2) - (6x^2 + 2x - 3)$

# Unit 2 Review Practice

Key

①  $\triangle LMN \sim \triangle PQR$



a)  $\sin P = \frac{\sin L}{\sin L} = \frac{4}{5} = 0.8$   
 b)  $\tan R = \frac{\tan N}{\tan N} = \frac{3}{4} = 0.75$

write the ratio as a decimal to 2 places.

c)  $\sin R$  is congruent to what 3 trig ratios?  $\cos P$ ,  $\cos L$ ,  $\sin N$

② a)  $\sin 29^\circ = \cos 61^\circ$

b)  $\cos 43^\circ = \sin 47^\circ$

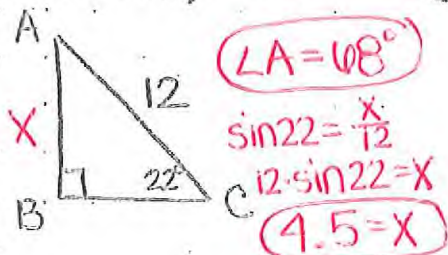
③ A  $\cos A = \frac{12}{13}$

$5^2 + 12^2 = x^2$   
 $169 = x^2$   
 $13 = x$

④  $\tan D = \frac{4}{8}$

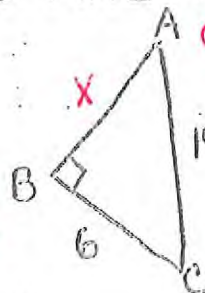
⑤  $\sin Z = \frac{3}{10}$

⑥ Find  $\overline{AB}$ , +  $\angle A$ .



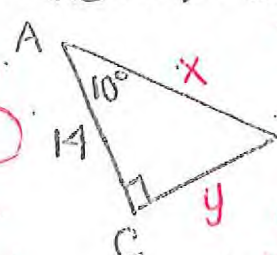
$\angle A = 68^\circ$   
 $\sin 22 = \frac{x}{12}$   
 $12 \cdot \sin 22 = x$   
 $4.5 = x$

⑦ Find  $\overline{AB}$ , +  $\angle C$ .



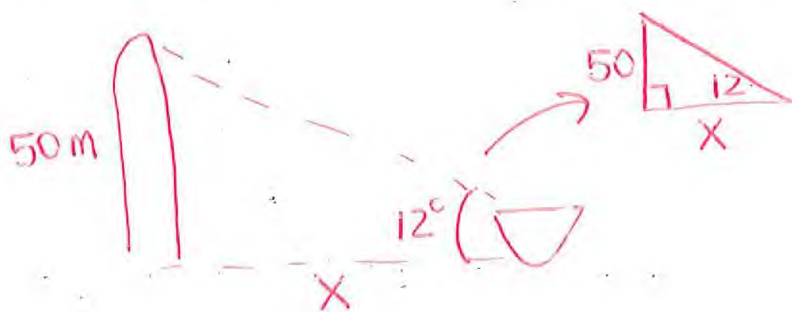
$\cos C = \frac{6}{19}$   
 $\angle C = \cos^{-1}(\frac{6}{19})$   
 $\angle C = 71.6^\circ$   
 $x^2 + 6^2 = 19^2$   
 $x^2 + 36 = 361$   
 $x^2 = 325$   
 $x = 18.0$

⑧ Find  $\overline{AB}$ , +  $\overline{BC}$ .



$\tan 10 = \frac{y}{14}$   
 $14 \cdot \tan 10 = y$   
 $2.5 = y$   
 $\cos 10 = \frac{14}{x}$   
 $x \cdot \cos 10 = 14$   
 $x = \frac{14}{\cos 10}$   
 $x = 14.2$

⑨ The world's most powerful lighthouse is 50 meters tall. Suppose you are in a boat just off the coast, and the angle of elevation from the boat to the top of the lighthouse is  $12^\circ$ . How far is your boat from the base of the lighthouse?



$\tan 12 = \frac{50}{x}$   
 $x \cdot \tan 12 = 50$   
 $x = \frac{50}{\tan 12}$

$x = 235.2 \text{ m}$

# Unit 4 Review Practice

⑩ simplify each radical.

A)  $\sqrt{45} = \frac{\sqrt{9 \cdot 5}}{3\sqrt{5}}$  B)  $\sqrt{200} = \frac{\sqrt{2 \cdot 100}}{10\sqrt{2}}$  C)  $\sqrt{27} = \frac{\sqrt{9 \cdot 3}}{3\sqrt{3}}$

D)  $\sqrt{4x^2y^4z^{10}} = \sqrt{4 \cdot x^2 \cdot y^4 \cdot z^{10}} = 2xy^2z^5$   
 E)  $\sqrt{12x^3y^7} = \sqrt{4 \cdot 3 \cdot x^2 \cdot x \cdot y^6 \cdot y} = 2xy^3\sqrt{3xy}$   
 F)  $\sqrt{x^2y^5z^{11}} = \sqrt{x^2 \cdot y^4 \cdot y \cdot z^{10} \cdot z} = x \cdot y^2 \cdot z^5 \cdot \sqrt{yz}$

⑪ Determine if the following numbers are rational or irrational.

A) 12 **R** B)  $\pi$  **I** C) 2.6 **R** D)  $\frac{\sqrt{10}}{2}$  **I** E)  $\frac{5}{7}$  **R**

F)  $\frac{1}{3}$  **R** G)  $\sqrt{5}$  **I** H)  $\frac{1}{5}$  **R** I) -6 **R**

⑫ Add, subtract or multiply the polynomials.

A)  $(3x^2 + xy - 5y^2) - (2x^2 - xy + 3y^2)$

B)  $(6x^2 + 10x - 7) + (2x^2 + 4x)$

C)  $(x + 2y + 1)(3x - 4y + 5)$

D)  $(x^2 + 5x - 6) + (2x^2 - 7x)$

E)  $(5x^3 + 2x^2 + 1)(x^3 - 6x + 2)$

F)  $(12x^2 + 5x^3 + 2) - (6x^2 + 2x - 3)$

12) A)  $(3x^2 + xy - 5y^2) - (2x^2 + xy - 3y^2)$

$x^2 + 2xy - 8y^2$

B)  $(6x^2 + 10x - 7) + (2x^2 + 4x)$

$8x^2 + 14x - 7$

C)

	$3x$	$-4y$	$5$
$x$	$3x^2$	$-4xy$	$5x$
$2y$	$6xy$	$-8y^2$	$10y$
$1$	$3x$	$-4y$	$5$

$3x^2 - 8y^2 + 2xy + 6xy + 8x + 5$

D)  $(x^2 + 5x - 6) + (2x^2 - 7x)$

$3x^2 - 2x - 6$

E)

	$x^3$	$-6x$	$2$
$5x^3$	$5x^6$	$-30x^4$	$10x^3$
$2x^2$	$2x^5$	$-12x^3$	$4x^2$
$1$	$x^3$	$-6x$	$2$

$5x^6 - 30x^4 + 2x^5 - x^3 + 4x^2 - 6x + 2$

F)  $(12x^2 + 5x^3 + 2) - (6x^2 - 2x + 3)$

$6x^2 + 5x^3 - 2x + 5$