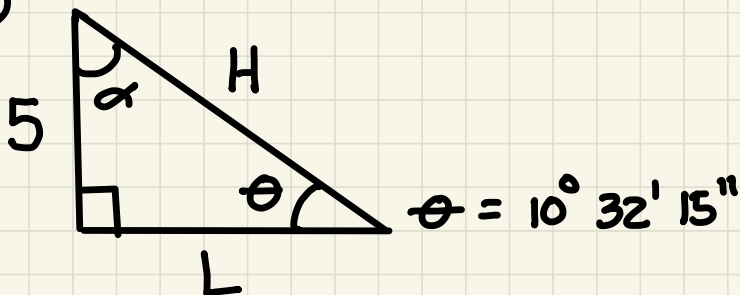



Ch. 6 - Board Problems

SOLVE FOR UNKNOWN

①



$$\alpha =$$

$$L =$$

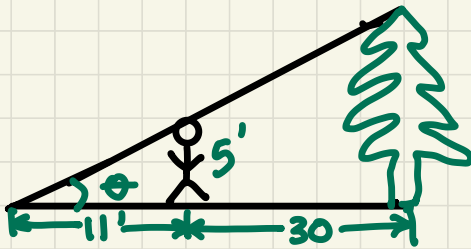
$$H =$$

$$(2) \quad (2x)^3(5x - y^2 + 7)$$

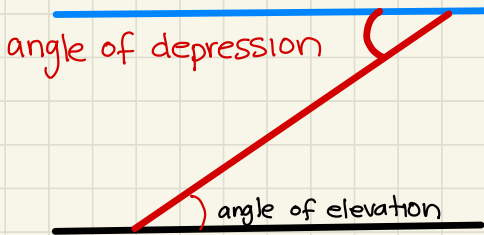
③ GIVE CENTER AND RADIUS.

$$x^2 + 3x + y^2 + 4y = 63$$

Ch. 6 - ANGLES OF ELEVATION & DEPRESSION



HOW TALL IS THE TREE?



EXAMPLE: A campsite that is 9.41 miles away from directly below a mountain top, has a 12° LINE OF SITE ANGLE OF ELEVATION TO THE TOP.
(2) How TALL IS THE MOUNTAIN?

Ex. 3

AT 42.3 FEET FROM THE BASE OF A BUILDING, THE ANGLE OF ELEVATION IS 75° . HOW TALL IS THE BUILDING?

DO PRACTICE PROBLEMS 1-32

① HOW FAR FROM THE DOOR MUST A RAMP BEGIN TO RISE 3' WITH AN 8° ANGLE OF ELEVATION?

② AN A-FRAME CABIN IS 26.23 FEET HIGH AT THE CENTER, AND THE ANGLE THE ROOF MAKES WITH THE BASE IS $53^\circ 15'$. HOW WIDE IS THE BASE?

EXTRA PRE-CALCULUS

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

what is y when $x = 2$? _____

$$f(2) = 2x - 3 = \underline{\hspace{2cm}}$$

what is $f(t)$? _____

$$f(m^2 + 2)? \underline{\hspace{2cm}}$$

QUOTIENT FORMULA:

$$\frac{f(x+h) - f(x)}{h} = \frac{\Delta y}{\Delta x} = \text{or slope}$$

$$f(x) = x^2 - x$$

Name _____ period _____ Date _____

Step 1: calculate $f(x+h)$. Simplify.Step 2: subtract $f(x)$ from the answer to Step 1Step 3: divide the answer to Step 2 by h Find the difference quotient for: $f(x) = x^2 - 4x + 3$

a) $f(x+h)$

b) $f(x+h) - f(x)$

c) $\frac{f(x+h) - f(x)}{h}$

Practice:

A. Given: $f(x) = 4x^2$, find the following and simplify.

d) $f(x+h)$

e) $f(x+h) - f(x)$

f) $\frac{f(x+h) - f(x)}{h}$

B. Given: $f(x) = \frac{1}{3x^2}$, find the following and simplify.

g) $f(x+h)$

h) $f(x+h) - f(x)$

i) $\frac{f(x+h) - f(x)}{h}$

Find the $\frac{f(x+h) - f(x)}{h}$ for:

1. $f(x) = x^2 - 5x - 1$

2. $f(x) = \frac{5}{x}$

3. $f(x) = 5x - 2x^2$

4. $f(x) = 17x^2 - 13x$

5. $f(t) = -16t^2 + 9t + 10$

6. $f(x) = \frac{1}{2}x^2 + 3x - 4$

7. $f(x) = \frac{5}{2x}$

8. Given: $f(x) = 3x^2 - 5x + 1$, find $\frac{f(2+h) - f(2)}{h}$

9. Given: $f(x) = \frac{1}{x}$, find $\frac{f(0.01+h) - f(0.01)}{h}$

10. Given: $g(x) = \sqrt{x}$, find $\frac{g(x+h) - g(x)}{h}$

11. Given: $g(x) = 3(x-4)^2 - 11$, find $\frac{g(a+h) - g(a)}{h}$

SQUARING Binomials

$$(x - 4)^2 =$$

$$(\underline{2x} + \underline{8})^2 =$$

$$(3 + h)^2 =$$