$\qquad$
$\qquad$

## SKILLZ

1. Fill in the missing representation of the given function.

| VERBALLY | ALGEBRAICALLY | NUME | CALLY | GRAPHICALLY |
| :---: | :---: | :---: | :---: | :---: |
| Bob has 8 sodas and drinks four every three hours. | a. | b.$\begin{array}{c}\text { Time } \\ \text { (hours) }\end{array}$ <br> 2 <br> 6 <br> -3 |  | c. $\quad$ - |
|  |  |  | Sodas | $\triangle \square$ |
|  |  |  | (\# cans) | पपपبपب, |
|  |  |  |  | पШय |
|  |  |  |  | $4{ }^{\text {¢ }}$ |
|  |  |  |  | पपบपบ |
|  |  |  | 2 | $\square \square$ |
|  |  |  | 2 |  |

2. Fill in the missing representation of the given function.

| VERBALLY | ALGEBRAICALLY | NUME | CALLY | GRAPHICALLY |
| :---: | :---: | :---: | :---: | :---: |
| a. | b. |  |  | c. |
|  |  | Time <br> (days) | Height (cm) |  |
|  |  | 2 | 8 | $\square \square+$ |
|  |  | 6 | 20 | प, |
|  |  | 9 | 29 | प्प्प्ए |
|  |  | 18 | 56 |  |

3. Use the functions to answer the following: $f(x)=2 x^{2}-3 x \quad g(x)=\frac{2}{3} x+5 \quad h(x)=|4-2 x|$
a. $f(-4)=$
b. $g(x)=20$ find $x$
c. $h(5)=$
d. $f(x+2)=$
e. $f(3)=$
h. $f(2 x)=$
4. Linear functions

| Slope Intercept Form | Standard Form | Point Slope Form |
| :---: | :---: | :---: |
| a. Write the equation of the line in slope intercept form that is perpendicular to $y=2 x-5$ and contains $(-50,10)$ | b. Graph $3 x+2 y=10$ | c. Write the equation of the line in point slope form that contains the points $(-50,-49)$ and $(35,53)$ |
| Slope Intercept Form | Standard Form | Point Slope Form |
| d. Write the equation of the line in slope intercept form that is parallel to $y=\frac{1}{2} x+3$ and contains (40,-6) | e. Graph $x-3 y=12$ | f. Write the equation of the line in point slope form that has a slope of $\frac{3}{5}$ and contains the point $(40,-3)$ |

5. Solve the following by the given method.

| Factoring | Factoring | Graphing (Calculator) |
| :---: | :---: | :---: |
| a. $x^{2}-2 x=80$ | b. $2 x^{2}=13 x+7$ | c. $\frac{1}{2} x^{2}-3 x-27=0$ |
|  |  | Factoring |
| Factoring $x^{3}-9 x=0$ | e. $6 x^{2}-35=-11 x$ | f. $-0.7 x^{2}+2.5 x=-5$ |
|  |  |  |

## APPLICATIONS

6．Bob shots a gun into straight up．The data represents the height of the bullet over time．

| Time（sec） | 1 | 6 | 9 | 12 | 15 | 19 | 21 | 24 | 26 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Distance（ft） | 470 | 2130 | 2760 | 3100 | 3158 | 2781 | 2400 | 1590 | 890 |

a．Graph the data with a friendly window．Record here
b．Use regression and write the equation of your model．
$H(t)=$
c．What does $H(7)$ mean？Find it．

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WIHEOW
$8 \mathrm{~min}=$
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Yin＝
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$\mathrm{ys} 1=$
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3
d．Find the time at which the bullet will be 1600 feet in the air．
e．When will the bullet hit the ground？

7．The sides of a square are $(x+4)$ units long．
a．Draw a picture of this square．
b．If $x=12$ ，what is the area of the square？
c．If the area of the square is 121 units $^{2}$ ，find $x$ ．

## Review Skillz

Write the equation of the quadratic function in vertex form，$y=a(x-h)^{2}+\boldsymbol{k}$ ．

2.

3.

4.


## UNIT 1 CORRECTIVE ASSIGNMENT ANSWERS

1. a. $y=8-\frac{4}{3} x$
b.

| Time <br> (hours) | Sodas <br> (\# cans) |
| :---: | :---: |
| 2 | $\frac{20}{3}$ |
| 6 | 0 |
| -3 | 12 |
| $\frac{9}{2}$ | 2 |

c.

5. a. $x=10$ and -8
b. $x=-\frac{1}{2}$ and 7
c. $x=-4.937,10.937$
d. $x=-3,0,3$
e. $x=-\frac{7}{2}$ and $\frac{5}{3}$
f. $x=-1.429$ and 5.319
2. a. A 2 cm tall plant grows 3 cm per day.
b. $y=3 x+2$

3. a. 44
b. 22.5
c. 6
d. $2 x^{2}+5 x+2$
e. 9
f. 189
g. 8
h. $8 x^{2}-6 x$
4. a. $y=-\frac{1}{2} x-15$
b.

c. $y+49=\frac{6}{5}(x+50)$
or

$$
y-53=\frac{6}{5}(x-35)
$$

d. $y=\frac{1}{2} x-26$
e.

f. $y+3=\frac{3}{5}(x-40)$
6. a.
$X \min =0$
b. $H(t)=-15.898 x^{2}+446.454 x+32.979$
$\mathrm{Xmax}=30$
c. At 7 seconds the bullet is 2379.2 feet in the air.
$\mathrm{Xscl}=5$
$Y \min =0$
d. 4.112 seconds and 23.97 seconds
$Y \max =4000$
e. 28.157 seconds
7. a .

$$
x+4
$$

$$
x+4
$$

b. 256 units $^{2}$
c. 7

## REVIEW SKILLZ

1. $y=-(x+2)^{2}+3$
2. $y=(x-5)^{2}+2$
3. $y=x^{2}-5$
4. $y=-(x-2)^{2}+5$
