

2/25 Algebra 1 - Downing

Bellwork: What two numbers can you multiply to get c and add to get b ?

1) $b=1$ $c=-30 \rightarrow -5$ and 6

-30

1 | 30

2 | 15

3 | 10

-5 | 6

24

-1 | -24

-32

1 | 32

2 | -16

48

1 | 48

2 | 24

3 | 16

-4 | -12

2) $b=-25$ $c=24 \rightarrow -1$ and -24

3) $b=-14$ $c=-32 \rightarrow 2$ and -16

4) $b=-16$ $c=48 \rightarrow -4$ and -12

7.3 B Polynomial Application Notes on worksheet

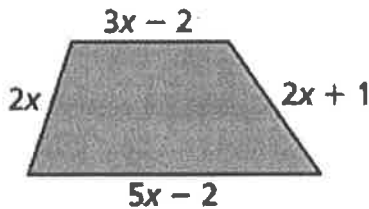
HW - Worksheet PC #1 Review (7.1-7.3) Odds only

7.3B Polynomial Application Notes

You are planning on fencing in your backyard.

a) If $x = 9$, how many feet of fencing do you need (to the nearest foot)? *★ Finding Perimeter*

Add all sides



$$3x-2 + 2x+1 + 5x-2 + 2x$$

$$P = 12x - 3$$

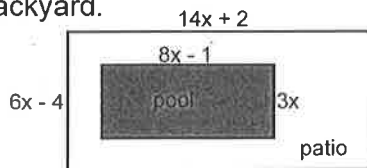
$$P = 12(9) - 3$$

$$P = 105 \text{ feet}$$

b) It cost \$3.5 per foot of fencing. How much will it cost to fence in your backyard?

$$\$3.50(105) = \boxed{\$367.50}$$

A friend of yours is planning on putting a pool in their backyard.



a) Find the area of the pool. $A = l \cdot w$

$$3x(8x-1) = \boxed{24x^2 - 3x}$$

b) Find the area of the patio.

Area of large rectangle:

$$(84x^2 - 44x - 8) - (24x^2 - 3x) = 84x^2 - 44x - 8 - 24x^2 + 3x = 60x^2 - 41x - 8$$

$$(6x-4)(14x+2) = 84x^2 + 12x - 56x - 8 = 84x^2 - 44x - 8$$

c) if $x = 4$, how many square feet of concrete is needed for the patio?

$$60(4)^2 - 41(4) - 8 = \boxed{788 \text{ ft}^2}$$

$$\text{Area of Patio} = 60x^2 - 41x - 8$$

d) Concrete cost \$5 per square foot. How much will it cost to pour the concrete for the patio?

$$788(5) = \boxed{\$3940}$$

7.3B Polynomial Application Notes

The polynomial $-16t^2 + v_0t + s_0$ represents the height (in feet) of an object, where v_0 is the initial vertical velocity (in feet per second), s_0 is the initial height of the object (in feet), and t is the time (in seconds).

1. A cannon shoots a pumpkin with an initial velocity of 15 feet per second and an initial height of 50 feet. $-16t^2 + 15t + 50$

a) Write a polynomial to represent the height of the pumpkin after t seconds.

$$-16t^2 + 15t + 50$$

b) How high is the pumpkin after 2 seconds?

$$-16(2)^2 + 15(2) + 50 = 16 \text{ ft.}$$

The polynomial $-16t^2 + v_0t + s_0$ represents the height (in feet) of an object, where v_0 is the initial vertical velocity (in feet per second), s_0 is the initial height of the object (in feet), and t is the time (in seconds).

2. A diver has an initial height of 25 feet and dives off the diving board with an initial velocity of 10 feet per second.

a) Write a polynomial to represent the height of the diver after t seconds.

$$-16t^2 + 10t + 25$$

b) How high is the diver after 0.5 seconds?

$$-16(.5)^2 + 10(.5) + 25 = 26 \text{ ft.}$$