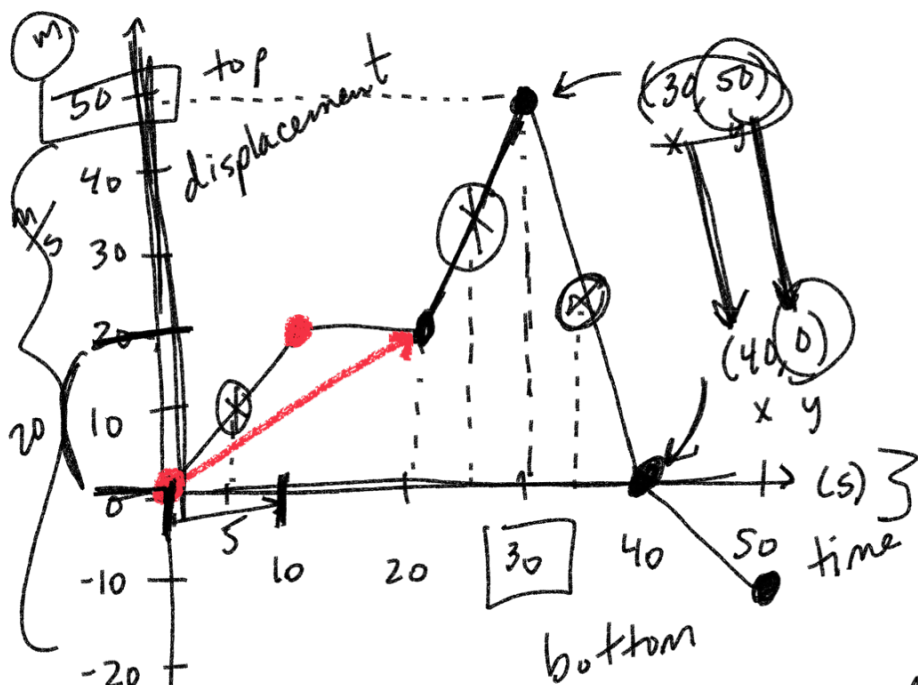


Displacement Vs Time



velocity

$\bar{v} @ t=20$

$$\bar{v} \text{ velocity} = \frac{x_f - x_i}{t_f - t_i}$$

$$= \frac{20 - 0}{20 - 0} = \frac{20}{20}$$

1 m/s

$\bar{v} \text{ velocity} @ t=30$

$$\frac{50 - 0}{30 - 0} = \frac{50}{30} = \frac{5}{3}$$

instantaneous velocity

$$\frac{50 - 20}{30 - 20} = \frac{30}{10} = 3 \text{ m/s}$$

1.6 m/s

$$\frac{y_2 - y_1}{x_2 - x_1}$$

$t = 35$

$$\frac{5}{10} = \frac{50}{100}$$

$$\frac{50 - 0}{30 - 40} = \frac{50}{-10}$$

displacement y's / time x's

-5

$t=5$

final displacement - initial displacement

time time - initial time

$$\frac{20}{10} = 2 \text{ m/s}$$

2 m/s

Velocity means (vector)

Change in displacement over time

$50 \frac{\text{mi}}{\text{h}}$ \oplus north
Displacement increases by 50 miles
every hour

$-20 \frac{\text{m}}{\text{s}}$ \ominus south
Displacement decreases by 20 meters
every second.

$$\text{displacement} = vt$$

$$x = vt$$

$$(18 \frac{\text{m}}{\text{s}})(3 \text{ s})$$

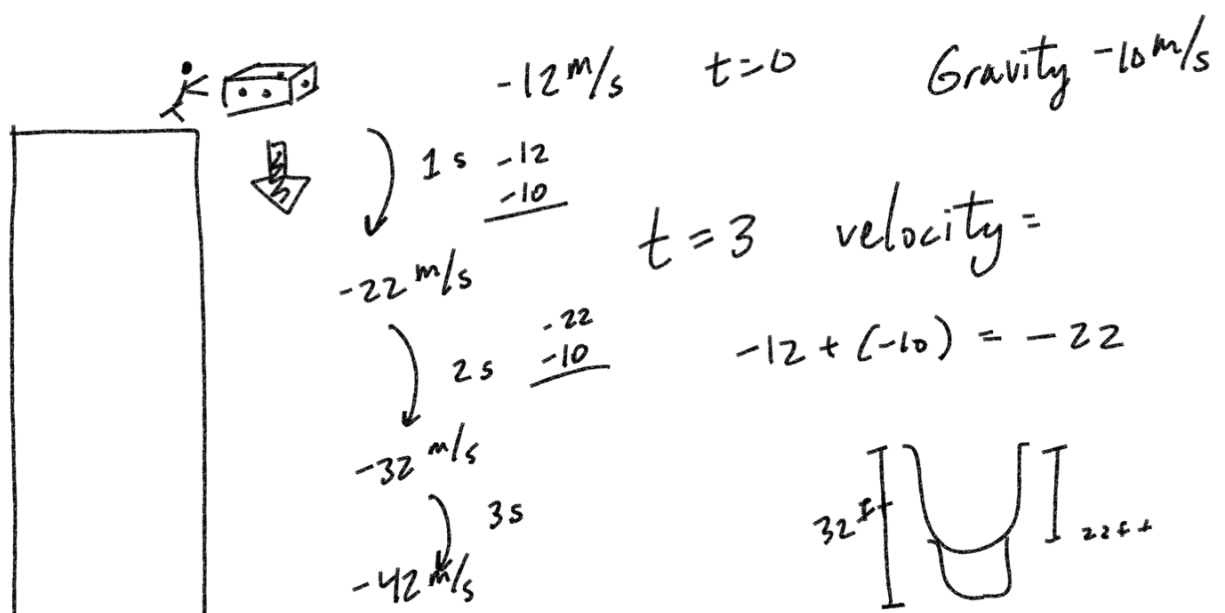
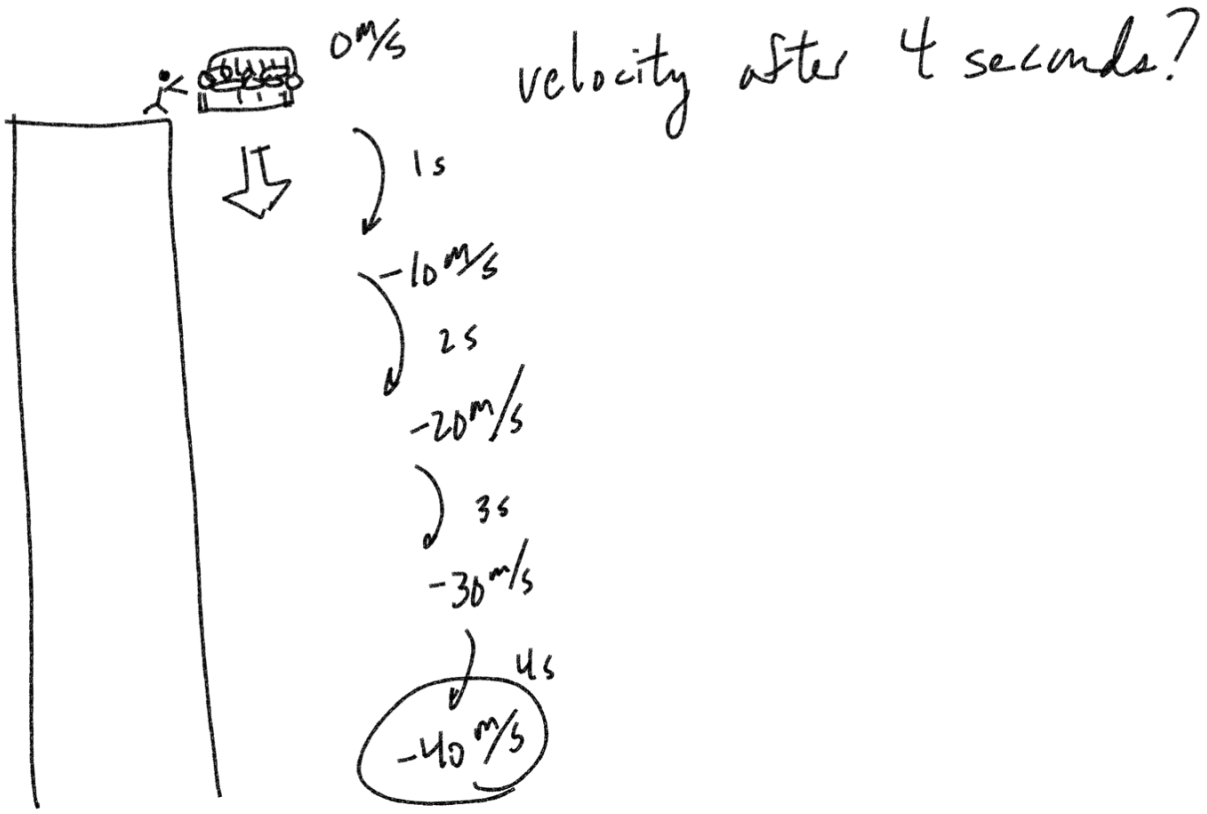
$$\boxed{54 \text{ m}}$$

Acceleration means

change in velocity over change
in time

$$-10 \frac{\text{m}}{\text{s}^2}$$

Velocity increases by $10 \frac{\text{m}}{\text{s}}$ downward
every second.

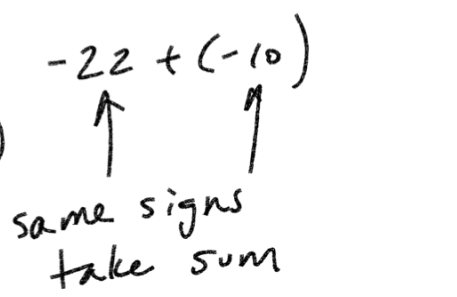


$$V_f = V_o + at$$

$$= -12 + (-10)(3)$$

$$= -12 + (-30)$$

-42 m/s



$$\text{initial velocity} = 6.0 \text{ m/s}$$

$$\text{acceleration} = -3.0 \text{ m/s}^2$$

$$\text{time} = 12 \text{ s}$$

$$V_f = V_i + at$$

$$6.0 + (-3.0)(12)$$

$$6.0 + (-36)$$

$$\boxed{-30 \text{ m/s}}$$

$$48 \text{ cm}^2 \text{ to } \text{m}^2$$

$$100 \text{ cm} = 1 \text{ m}$$

$$48 \text{ cm}^2 \times \frac{1 \text{ m}}{100 \text{ cm}} \times \frac{1 \text{ m}}{100 \text{ cm}} = \frac{48}{10000} = \boxed{0.0048 \text{ m}^2}$$

$$\frac{48}{100} = \frac{0.48}{100} = \boxed{0.0048 \text{ m}^2}$$

$$\frac{6 \text{ oz of diet popsi}}{1 \text{ class}} \times \frac{16 \text{ classes}}{1 \text{ week}} \times \frac{32 \text{ weeks}}{1 \text{ school year}} \times \frac{16 \text{ oz}}{1 \text{ lb}} = \boxed{192 \text{ lbs}}$$

~~school year~~

1000	kilo	10^3	King
	hecto	10^2	Harry Potter
	deca	10^1	dragon
	base	10^0	base
	deci	10^{-1}	dog
	cent	10^{-2}	cat
	milli	10^{-3}	mouse

0.09 cm
0.9 mm

1000 cm/s \rightarrow km/h

$$\frac{1000 \text{ cm}}{1 \text{ s}} * \frac{1 \text{ m}}{100 \text{ cm}} * \frac{1 \text{ km}}{1000 \text{ m}} * \frac{60 \text{ s}}{1 \text{ min}} * \frac{60 \text{ min}}{1 \text{ hr}}$$

36 km/h

HW
 Online Pre-Test
 Online Test due on Dec 2nd