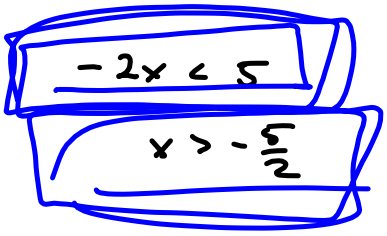


$$\frac{-2x}{-2} < \frac{5}{-2}$$

unacceptable

$$-2x < 5$$

$$\frac{-2x}{-2} > \frac{5}{-2}$$

$$x > -\frac{5}{2}$$

$$\frac{-2x}{-2} > \frac{5}{-2}$$

S 1.6 #71

$\sqrt[3]{2+x-2x^2} = x$

Victor Borgs
"Siah right"

$(\quad)^3 = x^3$

Bradley

$-2x^2+x+2 = x^3$

$\Rightarrow x^3+2x^2-x-2=0$

$\Rightarrow x^2(x+2)-1(x+2)=0$

$(x+2)(x^2-1)=0$

$(x+2)(x-1)(x+1)=0$

$\Rightarrow x \in \{-2, 1, -1\}$

$\sqrt[3]{2-2-2(-2)^2} = -2$?

$\sqrt[3]{2-2-8} = -2$

$\sqrt[3]{-8} = -2$ ✓

$\sqrt[3]{2+1-2} = \sqrt[3]{1} = 1$

$\sqrt[3]{2-1-2} = -1$?

$\sqrt[3]{-1} = -1$? ✓

1.6 # 85

$$L + 1.25 s^{\frac{1}{2}} - 9.8 d^{\frac{1}{3}} = 16.296$$

$L = 21.24\text{m}$

$d = 18.34\ \text{m}^3$

Solve for s:

Lex:
L = length of boat (m)
d = displacement (m^3)
s = max sail area (m^2)

$$1.25 s^{\frac{1}{2}} = 16.296 - L + 9.8 d^{\frac{1}{3}}$$

$$s^{\frac{1}{2}} = \frac{16.296 - (21.24) + 9.8(18.34)^{\frac{1}{3}}}{1.25}$$

$$(\quad)^2 = (\quad)^2$$

$$\Rightarrow s = \left(\frac{16.296 - 21.24 + 9.8(18.34)^{\frac{1}{3}}}{1.25}\right)^2$$

$\approx$ 279.56 m^2 $\approx s$

```
(16296-2124+0.8*
(18.34)^(1/3))^2
/1.25
      160724308.9
Ans²
   2.583230347E16
```

No.

```
   2.583230347E16
(16.296-21.24+9.
8*(18.34)^(1/3))
/1.25
         16.719974
Ans^2
      279.5575304
```

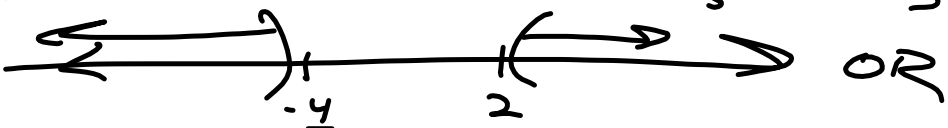
OK

$|-5x+3| > 7$

$-5x+3 > 7$ OR $-5x+3 < -7$

$-5x > 4$ OR $-5x < -10$

$\{x \mid x < \frac{4}{-5}$ OR $x > \frac{-10}{-5} = 2\}$

$=$ 

OR

$x \in$ OR $x \in$

$= (-\infty, -\frac{4}{5}) \cup (2, \infty)$

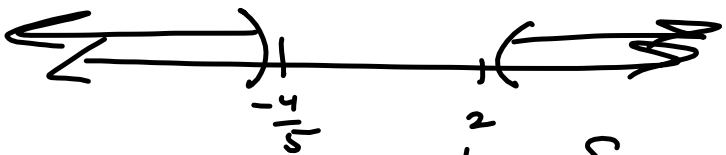
OR

$|-5x+3| = |5x-3| > 7$ Eliminates "Divide by negative" issue.

$5x-3 > 7$ OR $5x-3 < -7$

$5x > 10$ OR $5x < -4$

$\{x \mid x > \frac{10}{5} = 2$ OR $x < -\frac{4}{5}\}$

$=$ 

OR

etc. Same answer.