8.2.1
HWK

8-47)

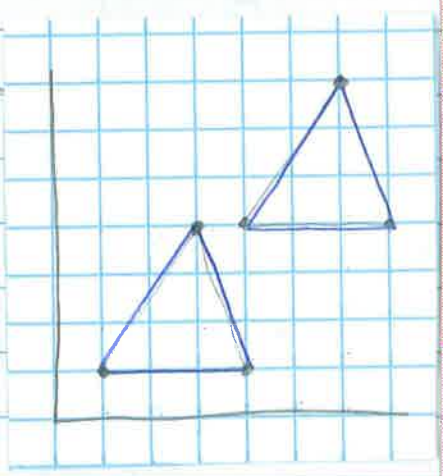
a) $4 \cdot 4 \cdot 5 \cdot 5 \cdot 5$ $\quad 4^2 \cdot 5^3$

b) $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot y \cdot y$ $\quad 3^5 \cdot y^2$

c) $(6x)(6x)(6x)(6x)$ $\quad (6x)^4$

8-48)

Factors	Product
6.5901×10^2	659.01
0.6893×10^7	6,893,000
5.86×10^4	58,600
0.092×10^3	92



8-49)

original points (1,1) (4,1) and (3,4)
new points (4,4) (7,4) (6,7)

8-50) Yes, there is a strong association. If the Kelp rate is low, there are a greater percentage of small crabs. If the Kelp rate is high, more large crabs grow.

8-51) Approximately 450 in Algebra, 250 in Geometry and 50 in Calculus.

8-52) Do not do

8-53) 1.9×10^6 is greater than 3.56×10^4 because 10^6 is a larger power of 10.

8-54)

a) 370,000,000 $\quad$ b) 7,600

3.7×10^8 $\quad$ 7.6×10^3

8-55)

a) $6^5 = 7776$ $\quad$ b) $\left(\frac{2}{3}\right)^3$

$\frac{2}{3} \cdot \frac{2}{3} \cdot \frac{2}{3} = \frac{8}{27}$

c) $(2+3)^4 = 5^4 = 625$

d) $2\left(-\frac{1}{2} + \frac{3}{4}\right)^3$

$2\left(\frac{1}{2}\right)^3 = 2\left(\frac{1}{4} \cdot \frac{1}{4} \cdot \frac{1}{4}\right) = 2\left(\frac{1}{64}\right) = \frac{2}{64} = \frac{1}{32}$

8-56)

(a)

$$\begin{array}{r} 7 = 3x - 5 \\ +5 \quad +5 \\ \hline 12 = 3x \\ \frac{12}{3} = \frac{3x}{3} \\ 4 = x \end{array} \qquad \begin{array}{r} 7 = 3x - 5 \\ -7 \quad -7 \\ \hline 0 = 3x - 12 \end{array}$$

Both strategies will work eventually, but adding 5 to both sides will isolate the variable sooner.

(b)

B-57)

x	0.5	0	2	4	5
y	-0.5	-2	4	10	13

1 3

+3 1 +3 +3 7 +3 +3

a) rule is $y = 3x - 2$

b) y-intercept can be found by the fact that $y = -2$ when $x = 0$. Then look for the pattern in how y is changing when x increases by 1

B-58) skip