Name:_____

10.1 & 10.3 Practice

Simplify the expressions.

1) $3\sqrt{7}-5\sqrt{7}+4\sqrt{7}$

$2\sqrt{7}$

2) $8\sqrt{5}+\sqrt{125}$

$13\sqrt{5}$

3) $2\sqrt{2}+\sqrt{5}-6\sqrt{2}$

$-4\sqrt{2}+\sqrt{5}$

4) $4\sqrt{3}-\sqrt{27}$

$\sqrt{3}$

5) $\sqrt{12}\cdot\sqrt{3}$

6

6) $\sqrt{3}(7+\sqrt{5})$

$7\sqrt{3}+\sqrt{15}$

7) $(1-\sqrt{3})^2$

$4-2\sqrt{3}$

8) $(6-\sqrt{2})(6+\sqrt{2})$

~~$21-8\sqrt{5}$~~

32

9) $3\sqrt{2}+\sqrt{2}$

~~8~~

$4\sqrt{2}$

10) $\sqrt{20}+\sqrt{5}$

$3\sqrt{5}$

11) $(4-\sqrt{5})^2$

$21-8\sqrt{5}$

12) $\sqrt{2}\cdot\sqrt{32}$

8

13) $2\sqrt{\frac{5}{81}}$

$\frac{2\sqrt{5}}{9}$

14) $\frac{14\sqrt{225}}{\sqrt{49}}$

30

15) $\frac{1}{4}\sqrt{72}$

$\frac{3\sqrt{2}}{2}$

16) **A pole-vaulter's approach velocity v (in feet per second) and height reached h (in feet) are related by the following equation.**

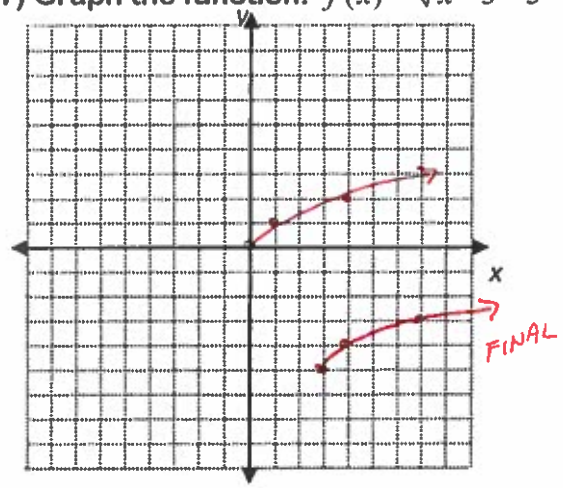
Pole-vaulting model: $v=8\sqrt{h}$

Approximate how fast you were running if you vaulted 16 feet. How fast is that in m.p.h?

32 ft/sec

21.82 mph

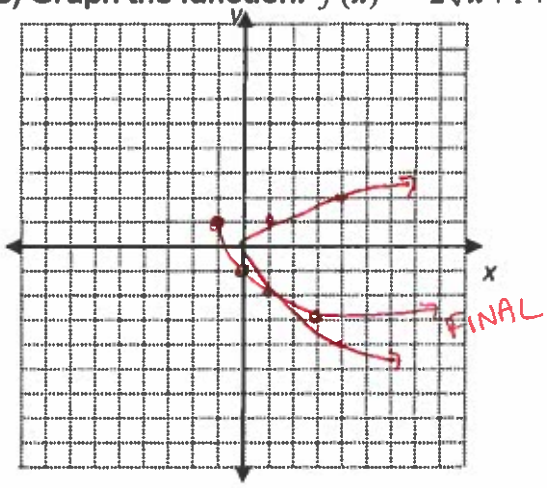
17) Graph the function: $f(x)=\sqrt{x-3}-5$



Domain: $x \geq 3$

Range: $y \geq -5$

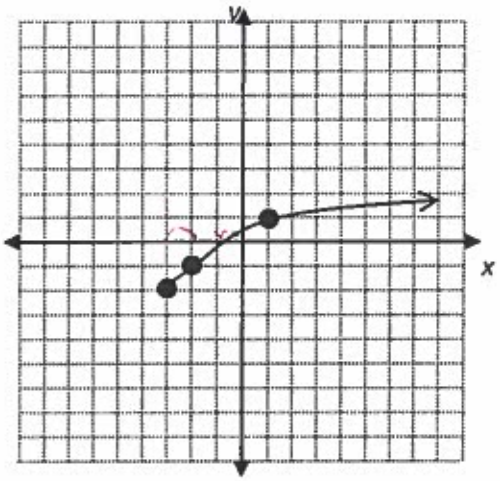
18) Graph the function: $f(x)=-2\sqrt{x+1}+1$



Domain: $x \geq -1$

Range: $y \leq 1$

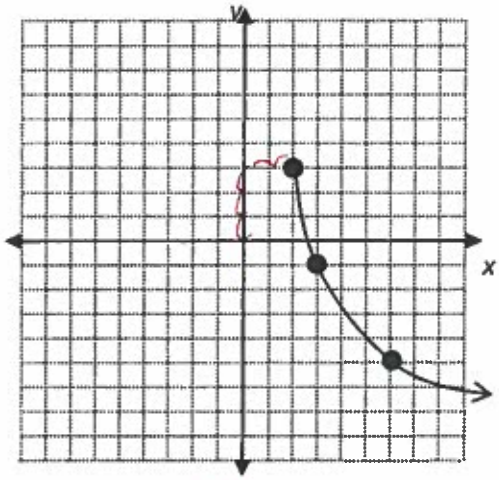
19)



Left 3 down 2

$y=\sqrt{x+3}-2$

20)



Right 2 up 3

multiple by -4

$y=-4\sqrt{x-2}+3$