

$$
\begin{aligned}
& \text { (2x+1) } y=(x+2)^{2}+1 \quad \begin{array}{l}
a=1 \\
h=-2 \\
k=1
\end{array} \\
& \begin{array}{l}
\text { Vertex }(-2,1) \\
\text { axis of stme: } x=-2\{
\end{array} \\
& \text { opens:up } \\
& \text { min: } 1 \\
& \begin{array}{c|c}
x & y \\
\hline-4 & 5 \\
-3 & 2
\end{array} \\
& -21 \\
& \begin{array}{r|r}
-1 & 2 \\
0 & 5
\end{array}
\end{aligned}
$$

$(2)$ Which function has the widest graph?
A $y=-2.5 x^{2}$
B $y=-0.3 x^{2}$
C $y=2.5 x^{2}$
D $y=5 x^{2}$
$a=-7.5$
$a=2.5$
$a=5$

$$
|a|=2.5
$$

$|a|=.3$

$$
|a|=2.5
$$

$$
|a|=5
$$

2. Which function has the narrowest graph?

F $y=-0.1 x^{2}$
G $y=x^{2}$
H $y=0.5 x^{2}$
J $y=2.3 x^{2}$
narrow $\longrightarrow$ wide est

$$
J, G, H, F
$$

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$$
y=x^{2}+8 x-5 \quad y=a(x-h)^{2}+k
$$

$$
y=\left(x^{2}+8 x\right)-5
$$

$$
\frac{8}{2}=\text { (4) } \quad y=\left(x^{2}+8 x+\frac{16}{2}\right)-5-16
$$

$$
\begin{array}{cl}
y^{2}=16 \\
\begin{array}{c}
\text { vertex }(-4-2) \\
\text { axis } \\
x=-4
\end{array} & \begin{array}{l}
a=1 \\
h=-4 \\
k=-21
\end{array}
\end{array}
$$

$$
\text { axis: } x=-4
$$

$$
\begin{aligned}
& \text { opens: : up } \\
& \text { min }
\end{aligned}
$$

$$
\text { (Qx,A) } \quad y=x^{2}-4 x+6
$$

$$
y=\left(x^{2}-4 x\right)+6
$$

$$
\begin{array}{ll}
\substack{-4 \\
(-2)^{2}=4 \\
-4} & y=\left(x^{2}-4 x+4\right)+b-4 \\
y=(x-2)^{2}+2 & a=1
\end{array}
$$

$$
\begin{aligned}
& a=1 \\
& h=2 \\
& k=2
\end{aligned}
$$

(ex. $\bar{B}$

$$
\begin{aligned}
& y=2 x^{2}+12 x+17 \\
& y=\left(2 x^{2}+12 x\right)+17 \\
& y=2\left(x^{2}+6 x+\frac{9}{2}\right)+17-2(9) \\
& y=2(x+3)^{2}-1
\end{aligned}
$$

ex.3b

$$
y=\left(-3 x^{2}+6 x\right)-1
$$

$$
\begin{aligned}
& y=-3\left(x^{2}-2 x+1\right)-1-1(-3) \\
& y=-3(x-1)^{2}+2
\end{aligned}
$$

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p. 290-292
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``` \(33-35,41-42,50,54\), 59-60
```

