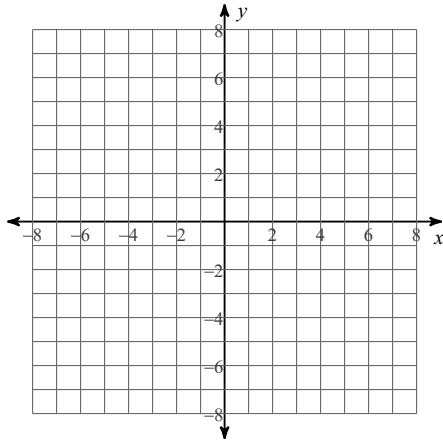


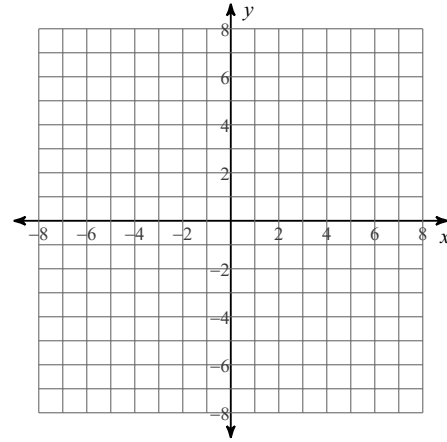
## Test 12 - study guide

Sketch the graph of each function.

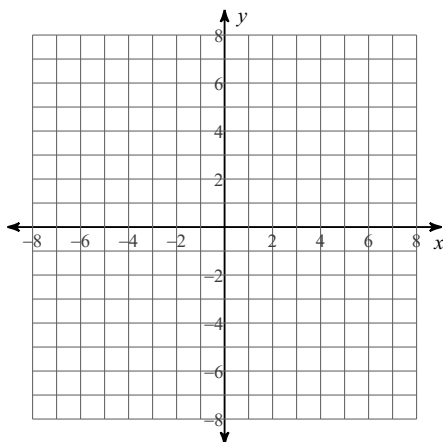
1)  $y = -\frac{3}{5}\sqrt{x+3} + 2$



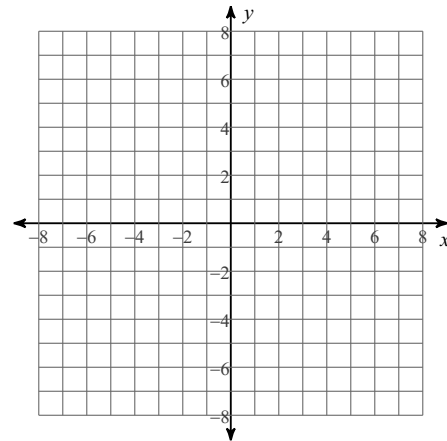
2)  $y = \sqrt{x+1} - 1$



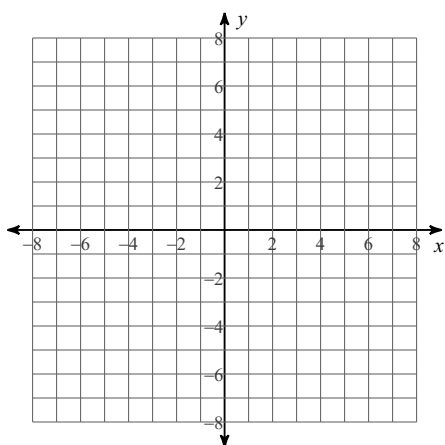
3)  $y = \frac{2}{3}\sqrt{x}$



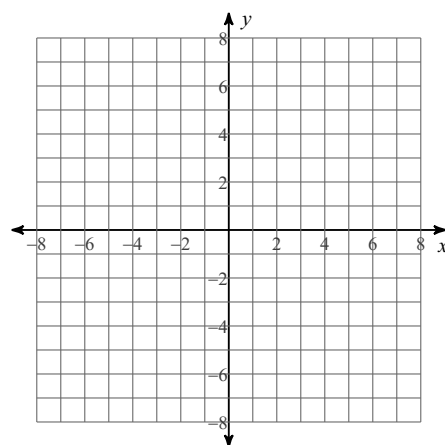
4)  $y = -4 + \sqrt{x}$



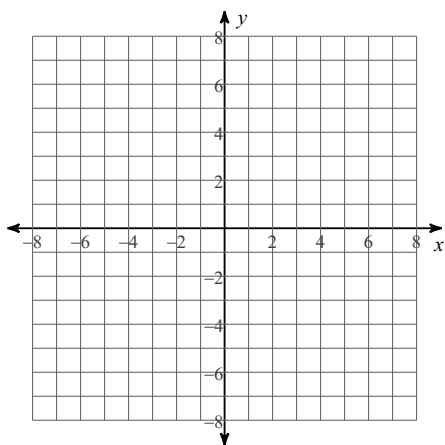
5)  $y = \sqrt{x} + 1$



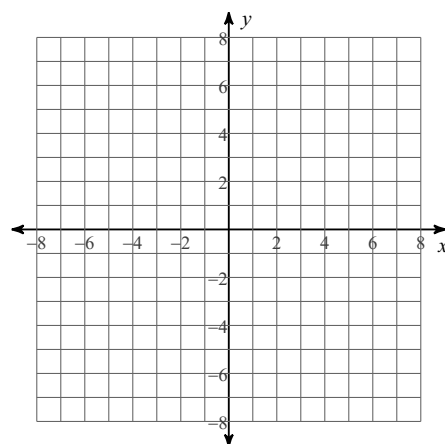
6)  $y = \sqrt{x - 3}$



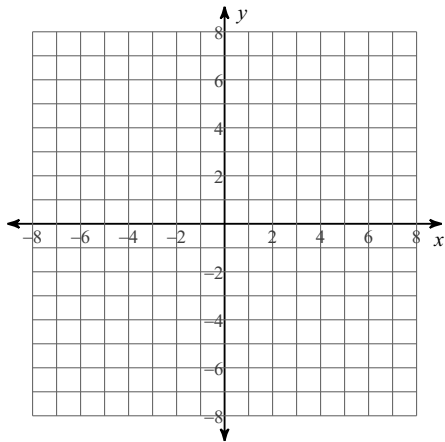
7)  $y = 1 - \frac{1}{2}\sqrt{x}$



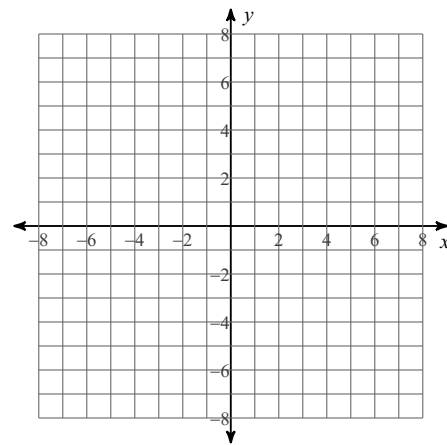
8)  $y = \sqrt{x}$



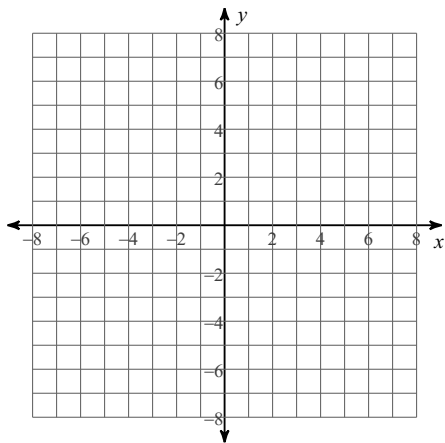
$$9) y = -\frac{3}{4}\sqrt{x+1} - 4$$



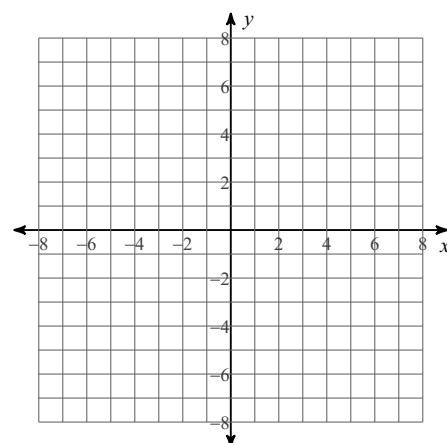
$$10) y = 2\sqrt{x}$$



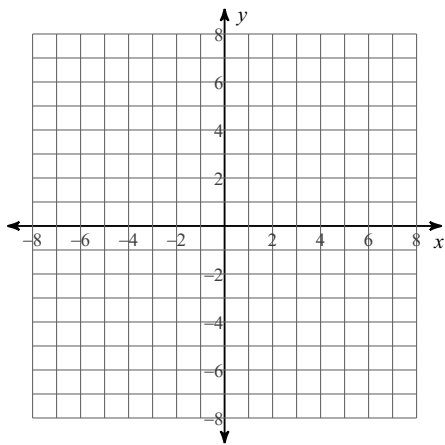
$$11) y = \frac{4}{5}\sqrt{x} - 3$$



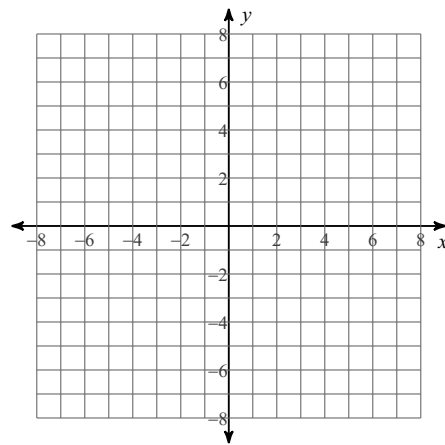
$$12) y = \sqrt{\frac{4x}{25}}$$



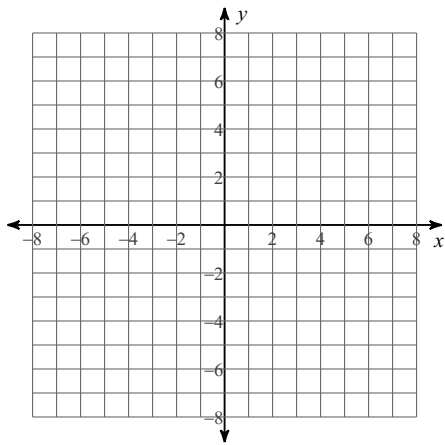
$$13) y = \sqrt[3]{x+1}$$



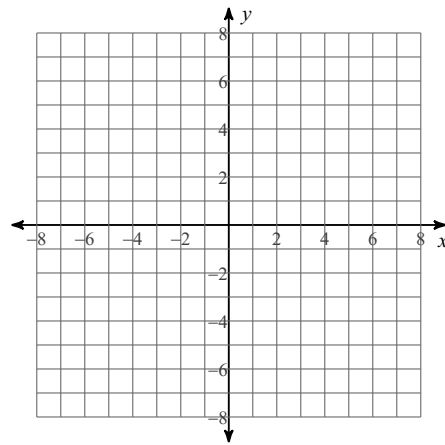
$$14) y = 3 + \sqrt[3]{x+2}$$



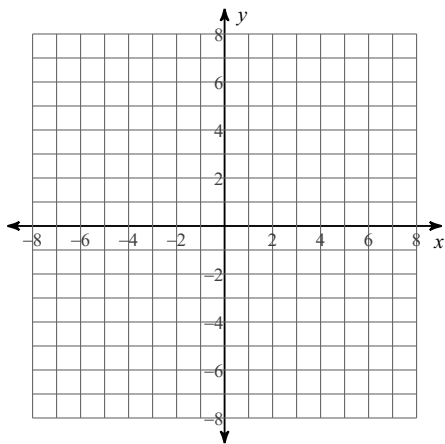
$$15) y = 2\sqrt[3]{x} - 1$$



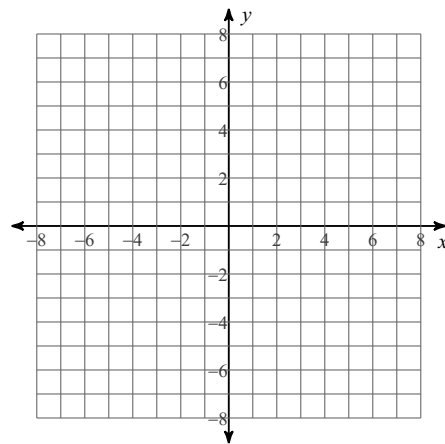
$$16) y = 3\sqrt[3]{x}$$



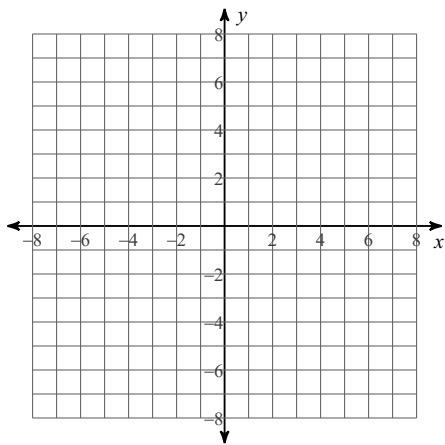
$$17) y = \sqrt[3]{x-2}$$



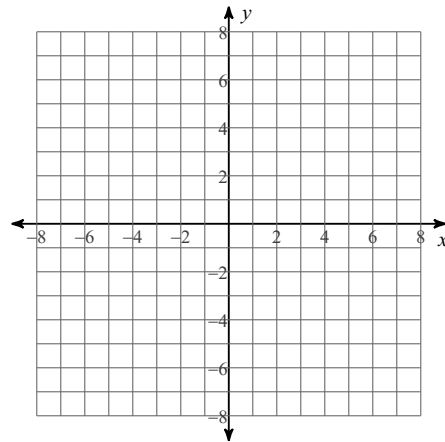
$$18) y = \sqrt[3]{x+1} + 5$$



$$19) y = \sqrt[3]{x} - 3$$



$$20) y = \frac{1}{2}\sqrt[3]{x-2} + 3$$



**Identify the domain and range of each.**

$$21) y = 2\sqrt{x-3} - 4$$

$$22) y = \frac{4}{5}\sqrt{x}$$

$$23) y = -2\sqrt{x-3}$$

$$24) y = \sqrt{x+3} + 3$$

$$25) y = \sqrt{x+4} - 5$$

$$26) y = 5 - \frac{1}{2}\sqrt{x+2}$$

**Solve each equation. Remember to check for extraneous solutions.**

$$27) x = 2 + \sqrt{3x-6}$$

$$28) a = \sqrt{-24 + 11a}$$

$$29) n - 6 = \sqrt{2n - 12}$$

$$30) \sqrt{2n - 13} = \sqrt{14 - n}$$

$$31) k = \sqrt{2 - k}$$

$$32) \sqrt{90 - k} = k$$

$$33) -k + \sqrt{7k - 13} = -1$$

$$34) m + 1 = \sqrt{4m + 25}$$

$$35) x = 4 + \sqrt{4x - 4}$$

$$36) \sqrt{9x} = x$$

$$37) -5 + \sqrt{2x + 56} = 3$$

$$38) \sqrt{-7 - 8k} = 7$$

$$39) \sqrt{x + 3} = 1$$

$$40) b = 3 + \sqrt{30 - 2b}$$

$$41) \sqrt{-1 - 3n} = \sqrt{2 - 2n}$$

$$42) b - 4 = \sqrt{5b - 14}$$

$$43) -x + \sqrt{3x - 8} = -2$$

$$44) \sqrt{n + 2} = 4$$

$$45) \sqrt{63 - 2x} = \sqrt{\frac{x}{10}}$$

$$46) -2 = \sqrt{3x - 8} - x$$