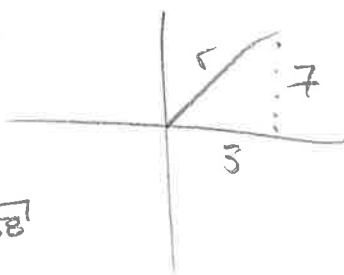
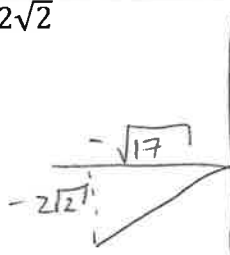
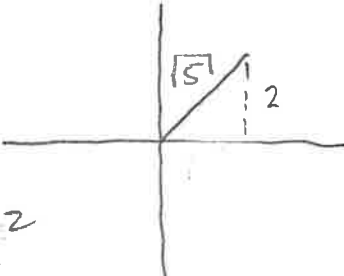
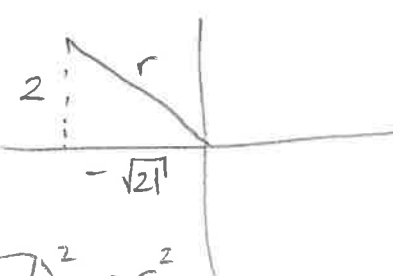


Section 7.2 and 7.3 – Check your Understanding

Given a point on the terminal side of angle θ . Evaluate the three trigonometric functions of θ

<p>1. (3,7)</p> $3^2 + 7^2 = r^2$ $9 + 49 = r^2$ $58 = r^2$ $r = \sqrt{58}$  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> $\sin \theta = \frac{7}{\sqrt{58}} \quad \tan \theta = \frac{7}{3}$ $\cos \theta = \frac{3}{\sqrt{58}}$ </div>	<p>2. $(-\sqrt{17}, -2\sqrt{2})$</p>  <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> $\tan \theta = \frac{2\sqrt{2}}{\sqrt{17}}$ </div> $(-\sqrt{17})^2 + (-2\sqrt{2})^2 = r^2$ $17 + 8 = r^2$ $r^2 = 25 \quad r = 5$ <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> $\sin \theta = -\frac{2\sqrt{2}}{5}$ </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> $\cos \theta = -\frac{\sqrt{17}}{5}$ </div>
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Given one of three primary trigonometric functions, find the other two trigonometric function of θ

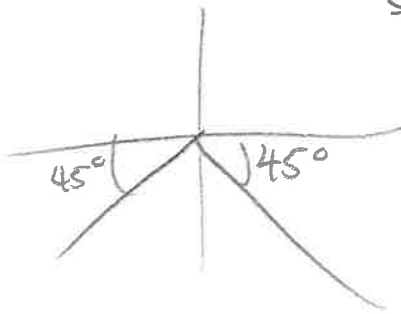
<p>3. $\sin \theta = \frac{2}{\sqrt{5}}$ θ is in Q1</p>  $r^2 - y^2 = x^2$ $\sqrt{5}^2 - 2^2 = x^2$ $5 - 4 = x^2$ $x^2 = 1$ $x = 1$ $\tan \theta = 2$ $\cos \theta = \frac{1}{\sqrt{5}}$	<p>4. $\tan \theta = -\frac{2}{\sqrt{21}}$ θ is in Q2</p>  $2^2 + (-\sqrt{21})^2 = r^2$ $4 + 21 = r^2$ $r^2 = 25$ $r = 5$ $\sin \theta = \frac{2}{5}$ $\cos \theta = -\frac{\sqrt{21}}{5}$
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Find all angles, $0^\circ \leq \theta < 360^\circ$, that satisfy each equation, use special angles and give exact answers, not decimals

5. $\sin \theta = -\frac{1}{\sqrt{2}}$

45° ref angle

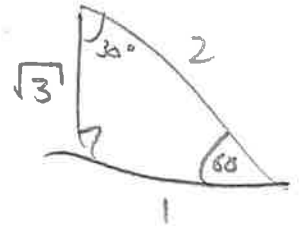
sin neg in
Q3 Q4



Q3 $\theta = 180 + 45$
 $\theta = 225^\circ$

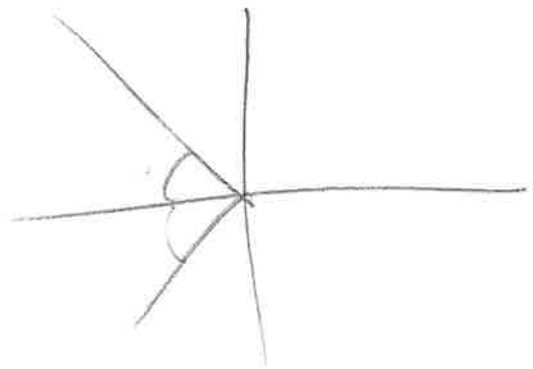
Q4 $\theta = 360 - 45$
 $\theta = 315^\circ$

$\cos \theta = -\frac{\sqrt{3}}{2}$ ← $\frac{x}{r}$



ref angle:

cos neg in Q2 and Q3



Q2 : $180 - 30$
 $\theta = 150^\circ$

Q3 : $180 + 30$
 $\theta = 210^\circ$